



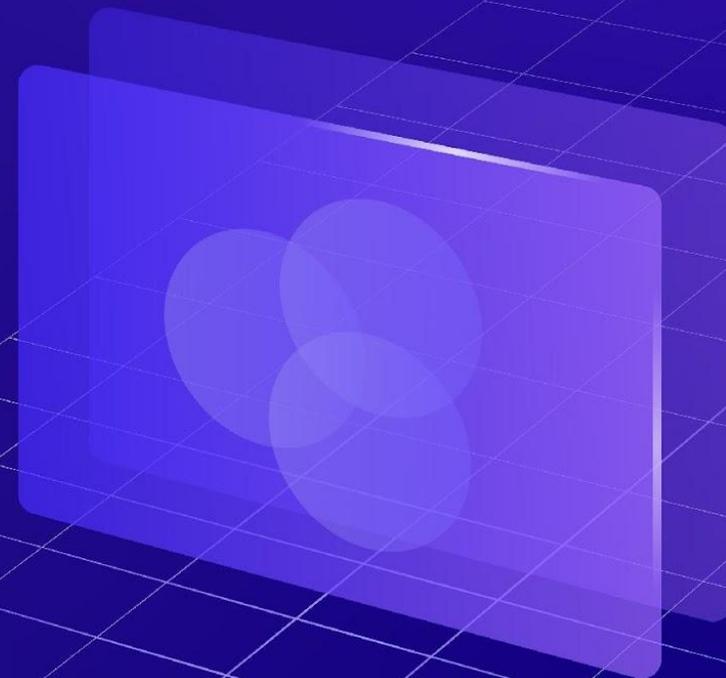
課程領域 | 新興智慧顯示科技應用

動態捕捉與虛擬網紅

Computer Animation

吳泳霈

國立臺北科技大學資訊工程系





01

目錄

VRoid Studio 3D 角色製作



目錄

- 下載 VRoid Studio
- 創建、編輯、輸出角色
- VRM 匯入 Unity
- Mixamo載動作檔
- 繳交資訊



01

下載 VRoid Studio





下載 VRoid Studio

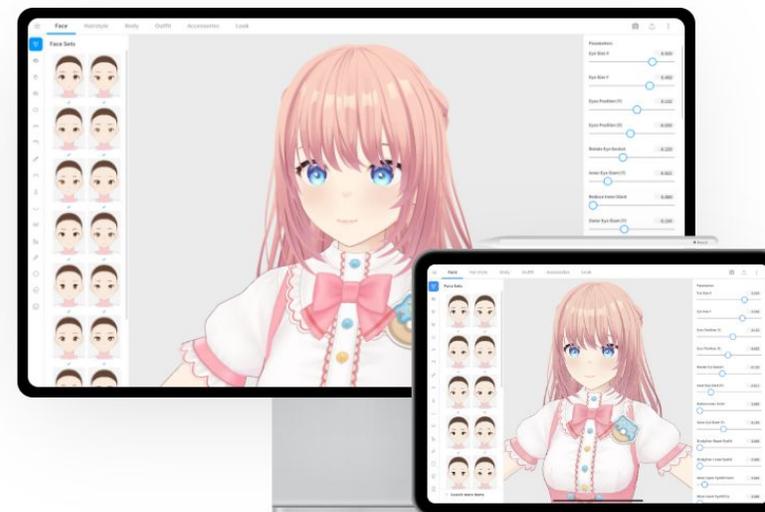
- ❖ 根據電腦系統**下載** [VRoid Studio](#)，接下來皆以Windows為範本。



3D Character Creation Software

VRoid Studio

3D Modeling,
for Everyone!



Download for free



Read the [Terms of Use](#) and [Privacy policy](#) before downloading.



創建角色

❖ 以新增角色為教學。





創建角色

❖ 選擇性別。

Select a base to start with

You can edit the body shape using the sliders later.



Fem

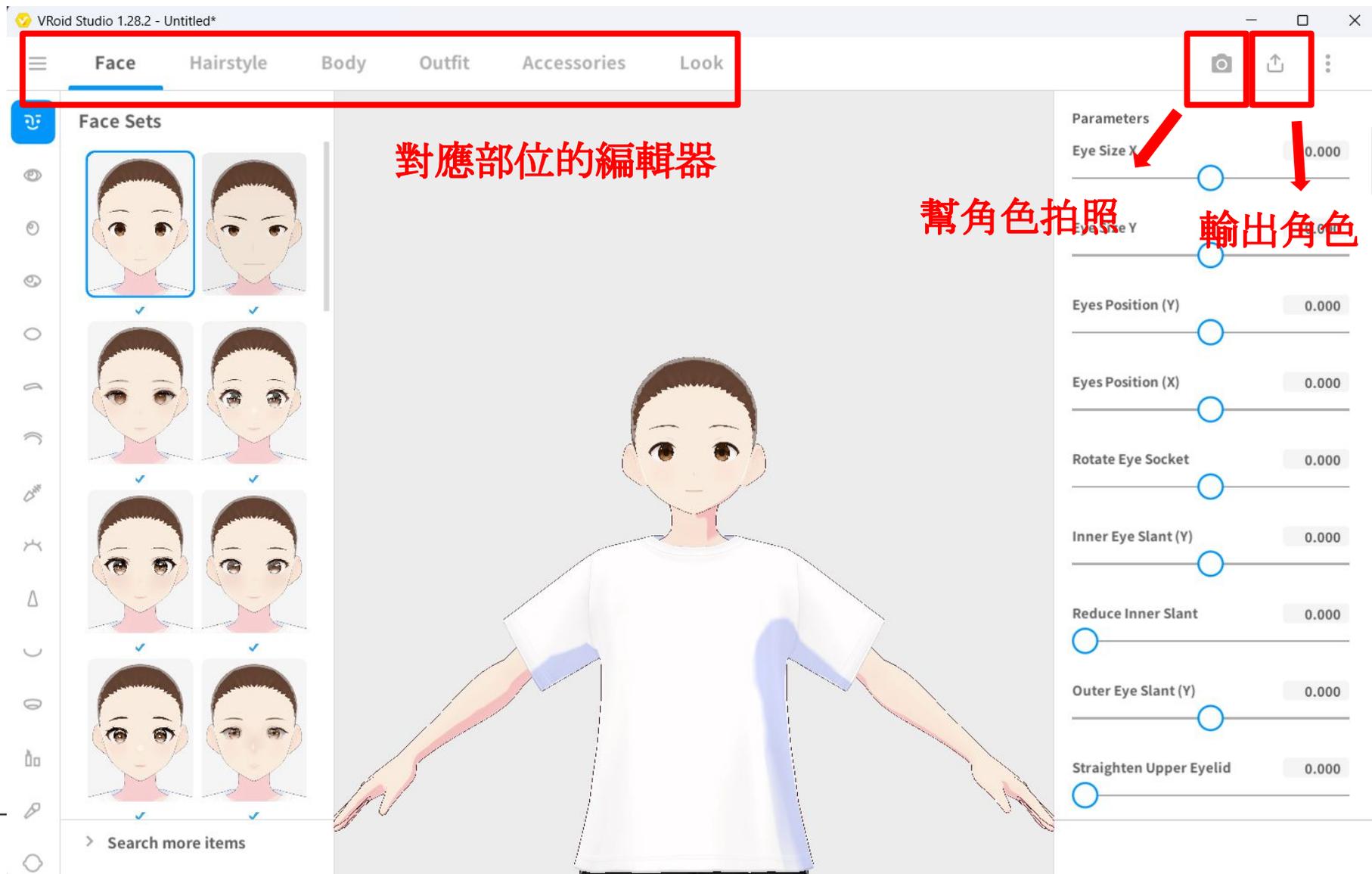


Masc



創建角色

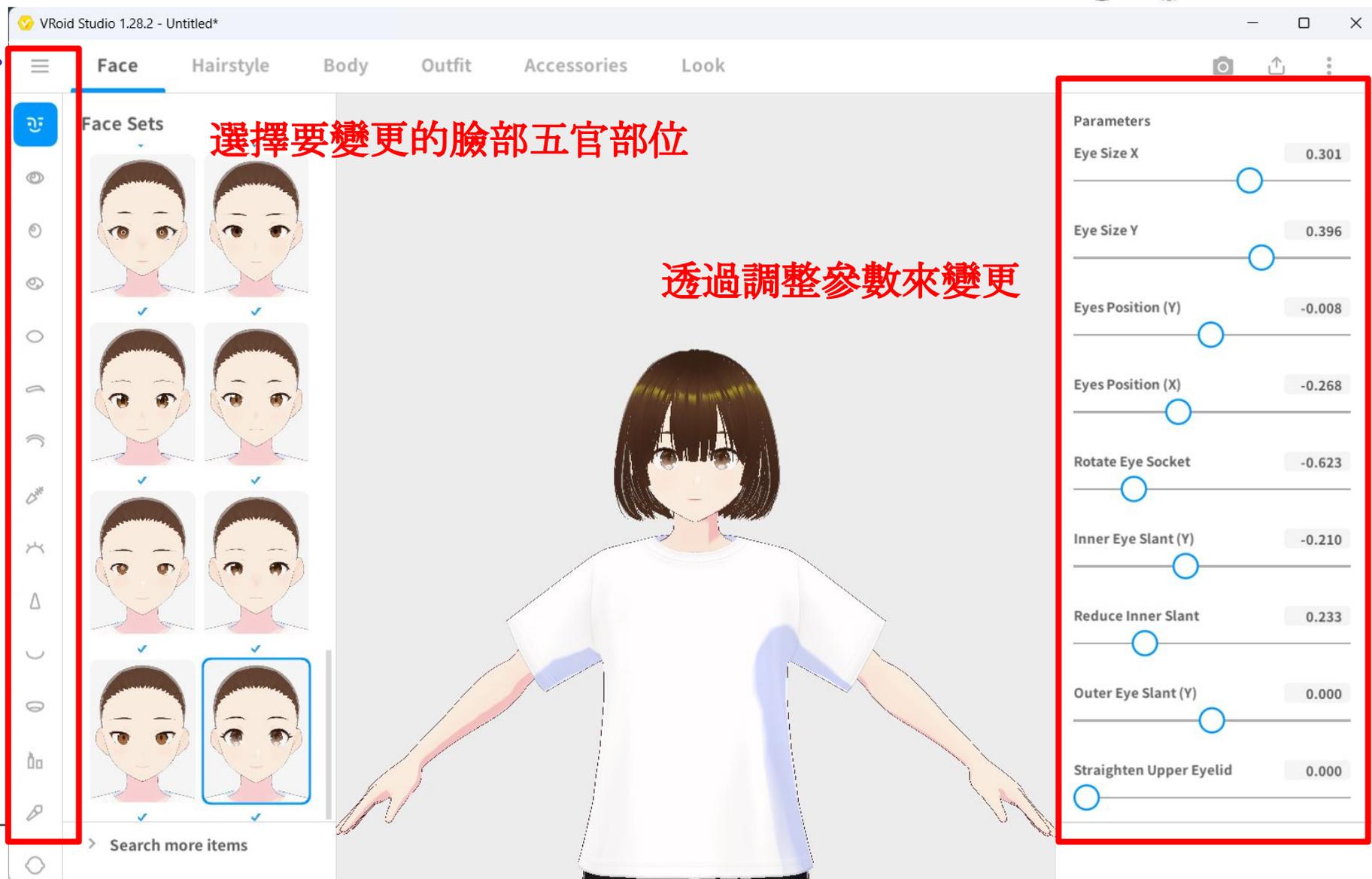
❖ 操作介面介紹。





創建角色

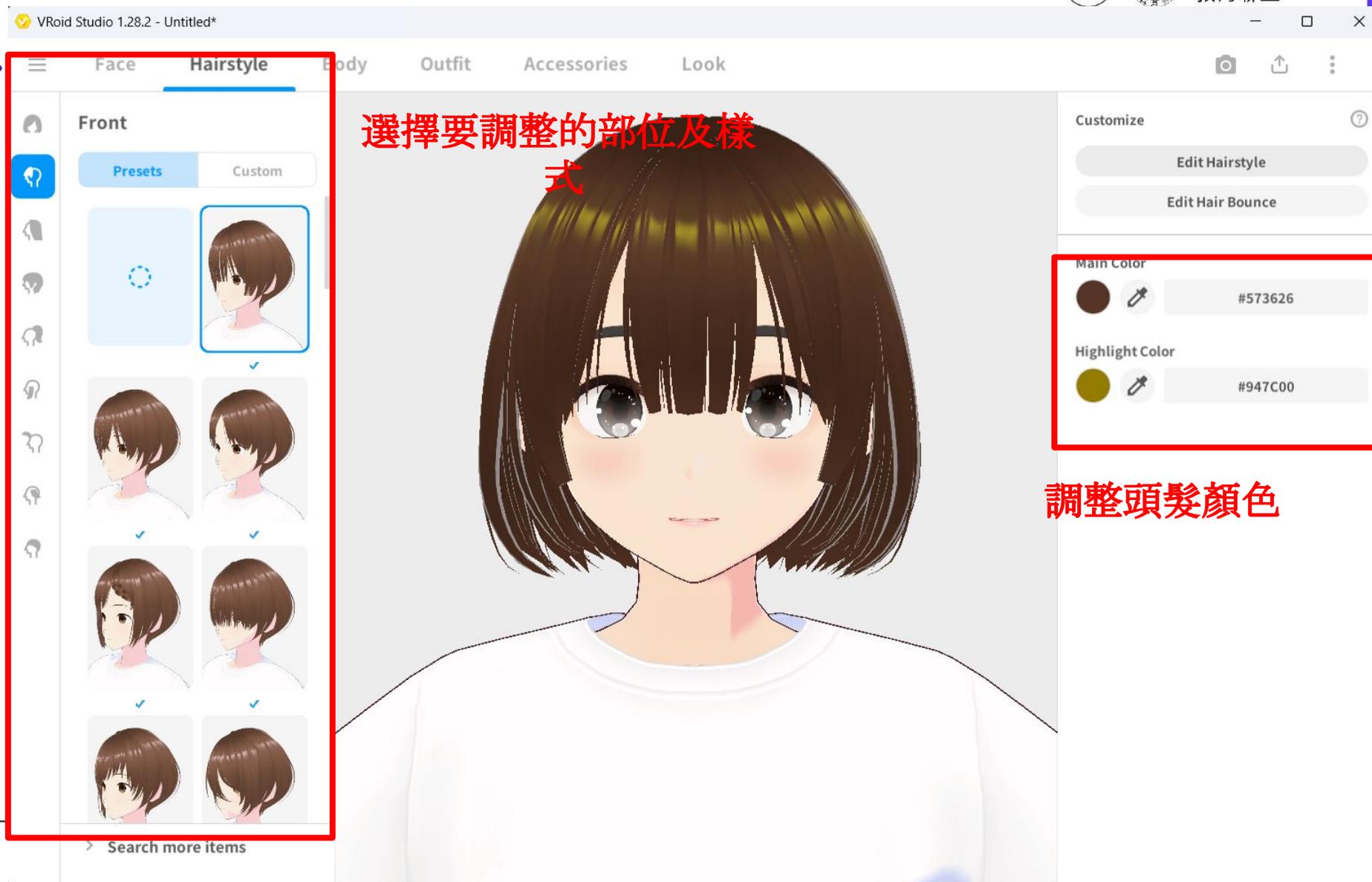
❖ 臉部編輯器。





創建角色

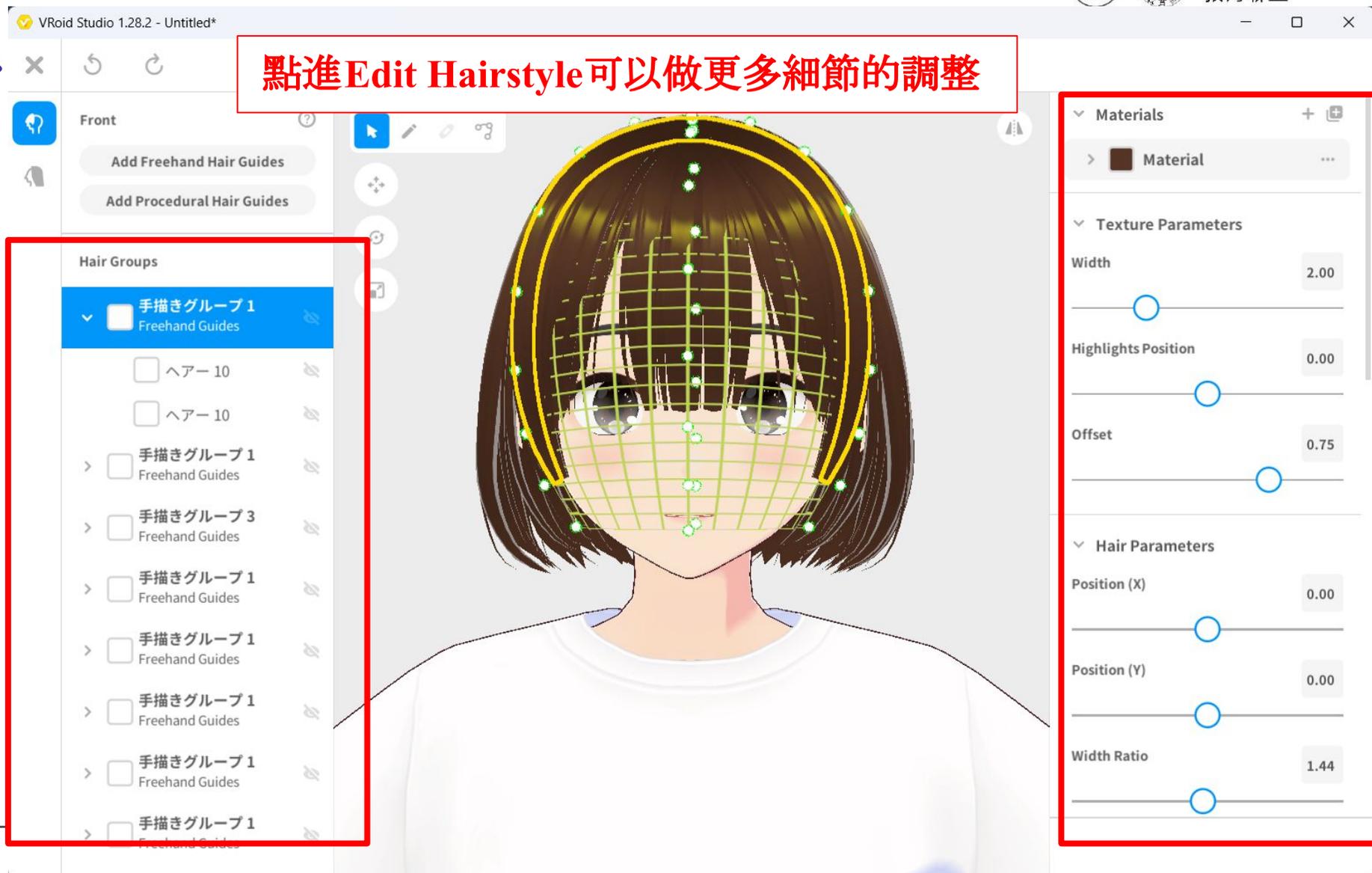
❖ 髮型編輯器。





創建角色

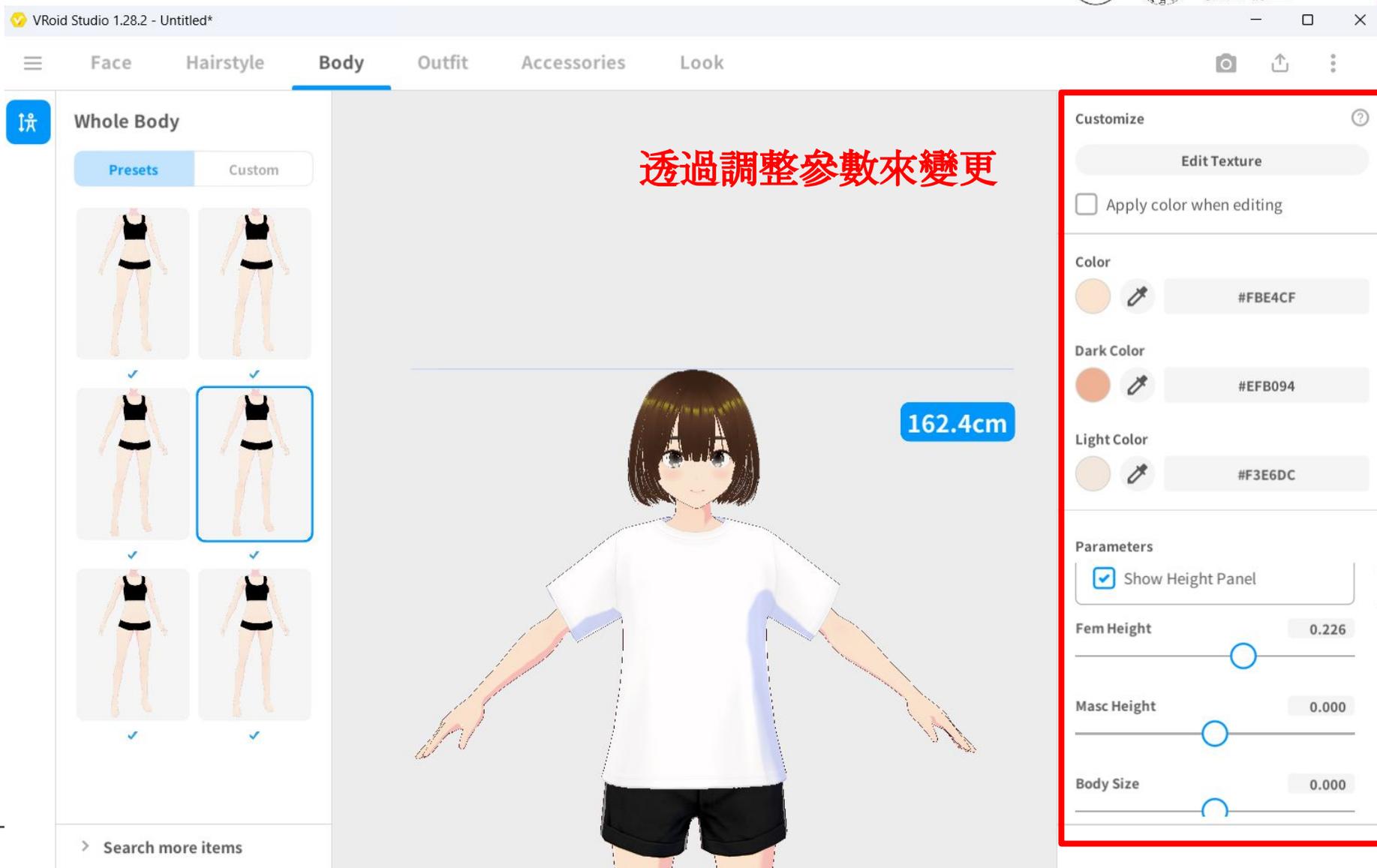
❖ 髮型編輯器。





創建角色

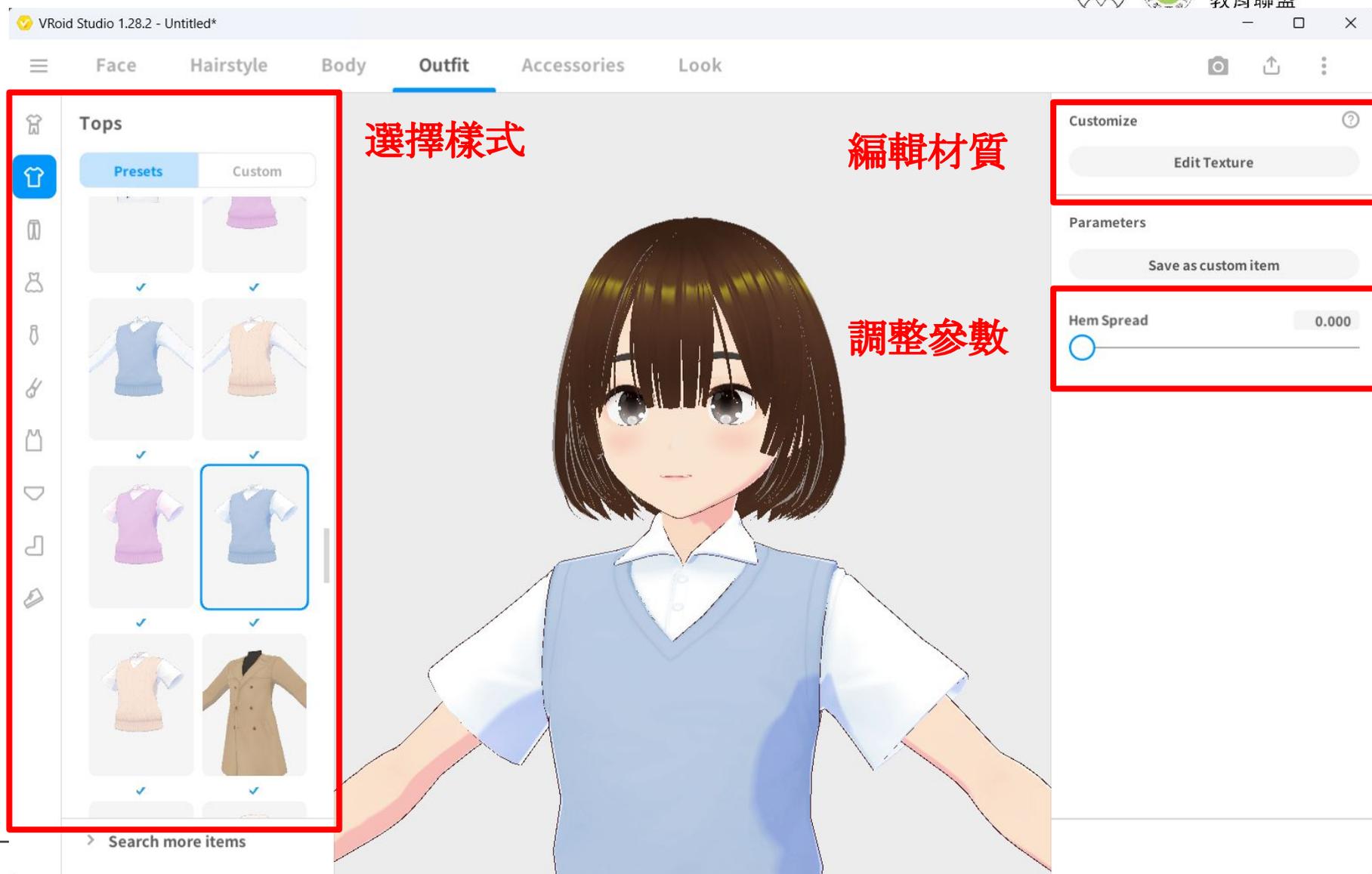
❖ 身體編輯器。



創建角色

❖ 衣服編輯器。

-基礎

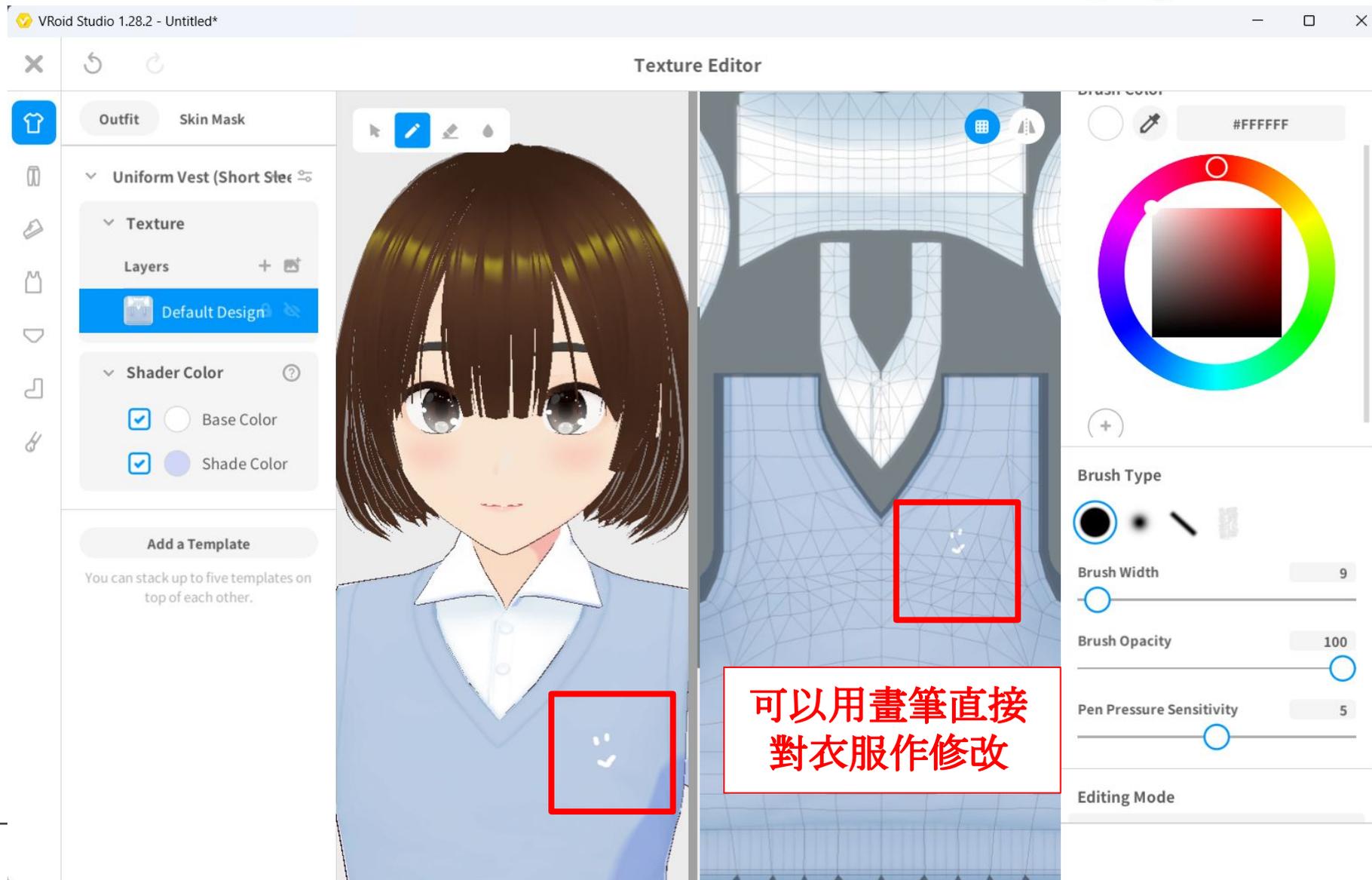




創建角色

❖ 衣服編輯器。

-材質(1)





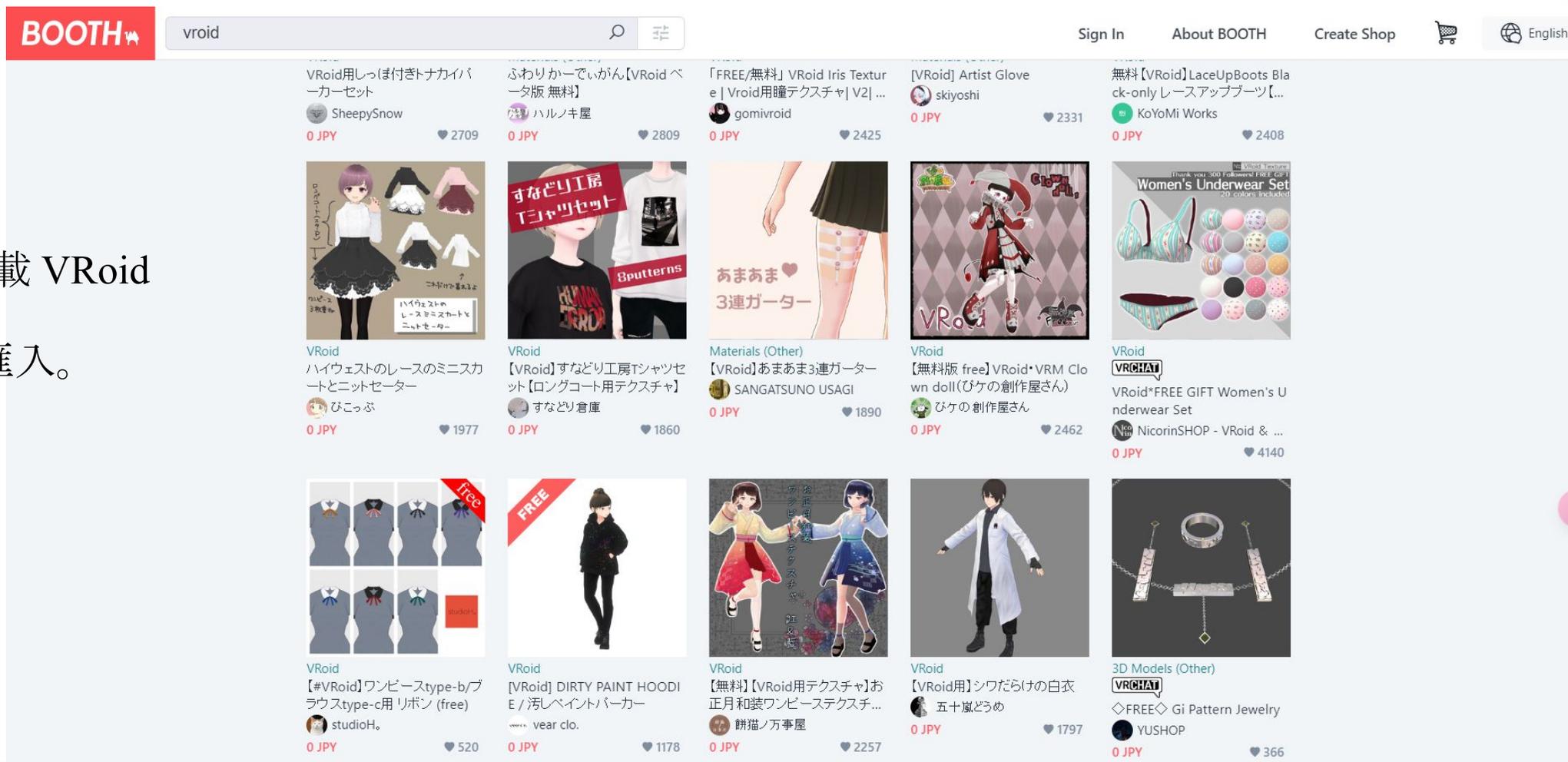
創建角色

❖ 衣服編輯器。

-材質(2)

❖ 透過 [Booth](#) 下載 VRoid

用的材質並將他匯入。





創建角色

❖ 衣服編輯器。

-材質(2)

❖ 找到自己喜歡的衣服後下載。

**要注意：
有分免費的及付費的！**

**另外有些裡面會沒有東西，可能是
作者沒弄好。**



3D Models > VRoid

五十嵐どうめ

【VRoid用】シワだらけの白衣

1800



Digital

0 JPY

Free Download

tired_lab_coat.zip (1.68 MB)

② About Gift >

About shipping

Shipped from warehouse

These products are shipped from BOOTH warehouse as soon as payment is confirmed.

創建角色

- ❖ 衣服編輯器。
 - 材質(2)
- ❖ 下載成功後應該是一張材質圖。





創建角色

Outfit Accessories Look

❖ 衣服編輯器。

-材質(2)

❖ 點選Edit Texttrue

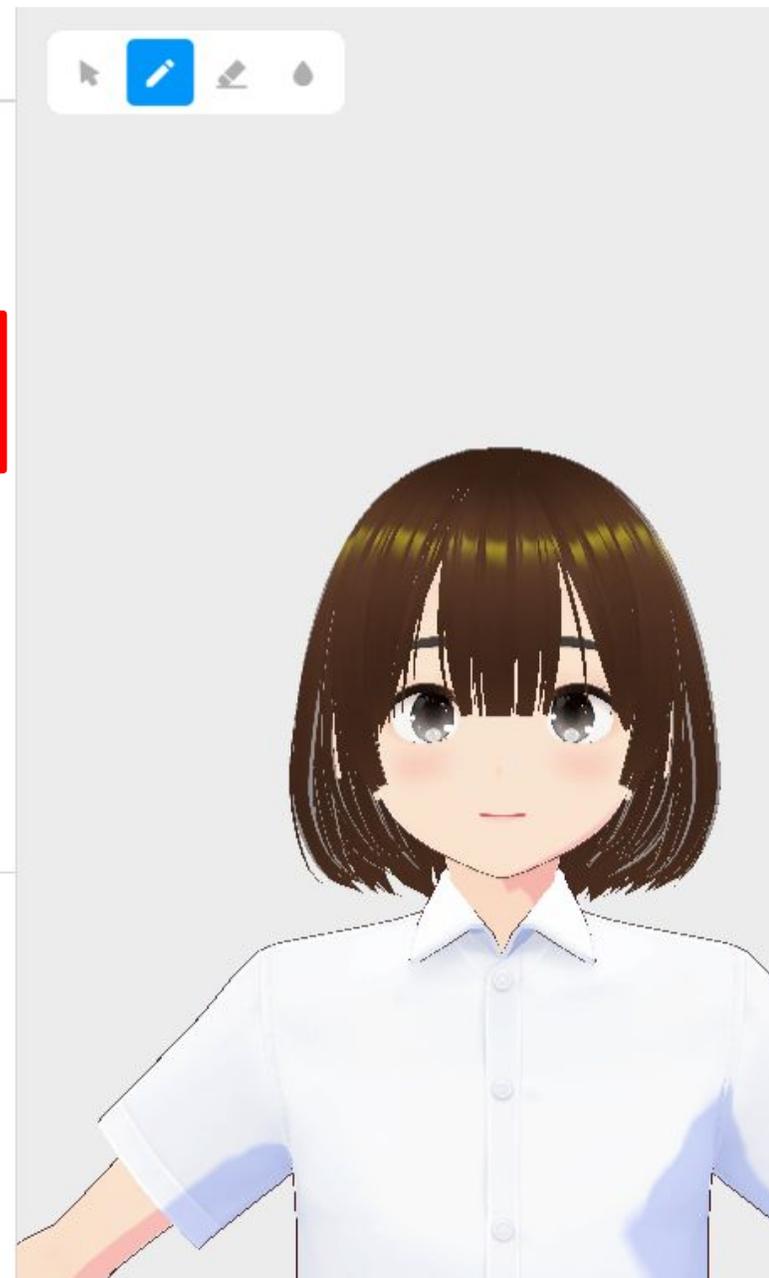
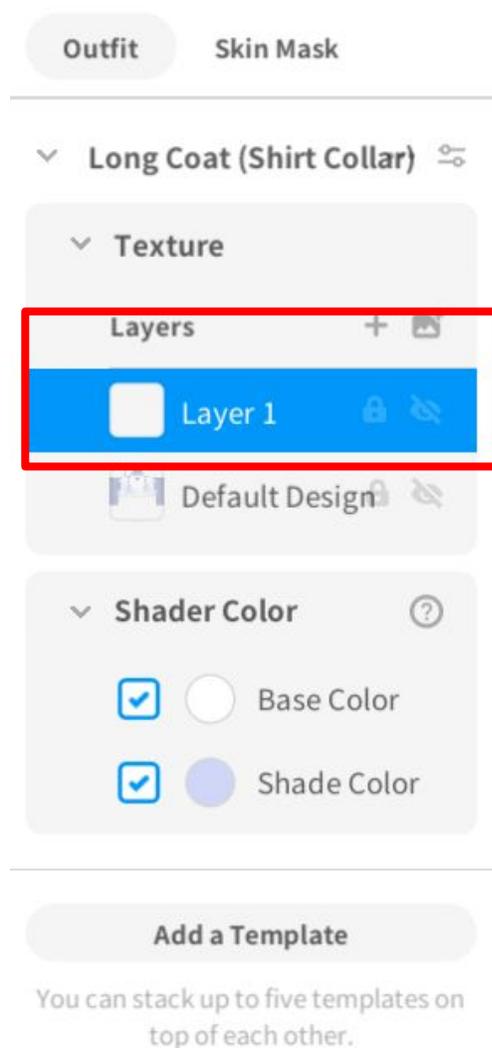


創建角色

❖ 衣服編輯器。

-材質(2)

❖ 在左邊Layers新增一個圖層。





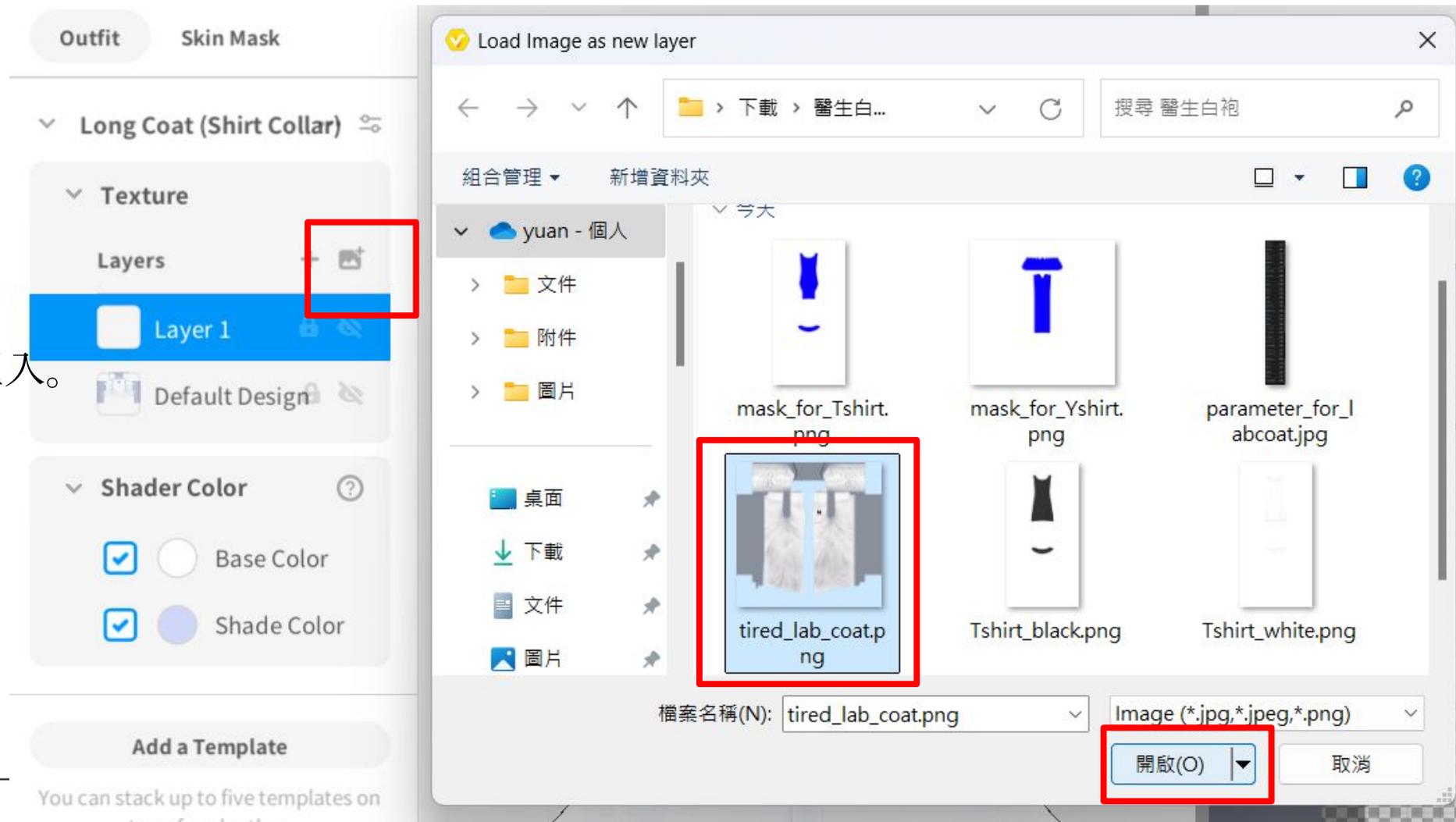
創建角色

❖ 衣服編輯器。

-材質(2)

❖ 點選圖片+。

❖ 將醫生白袍匯入。

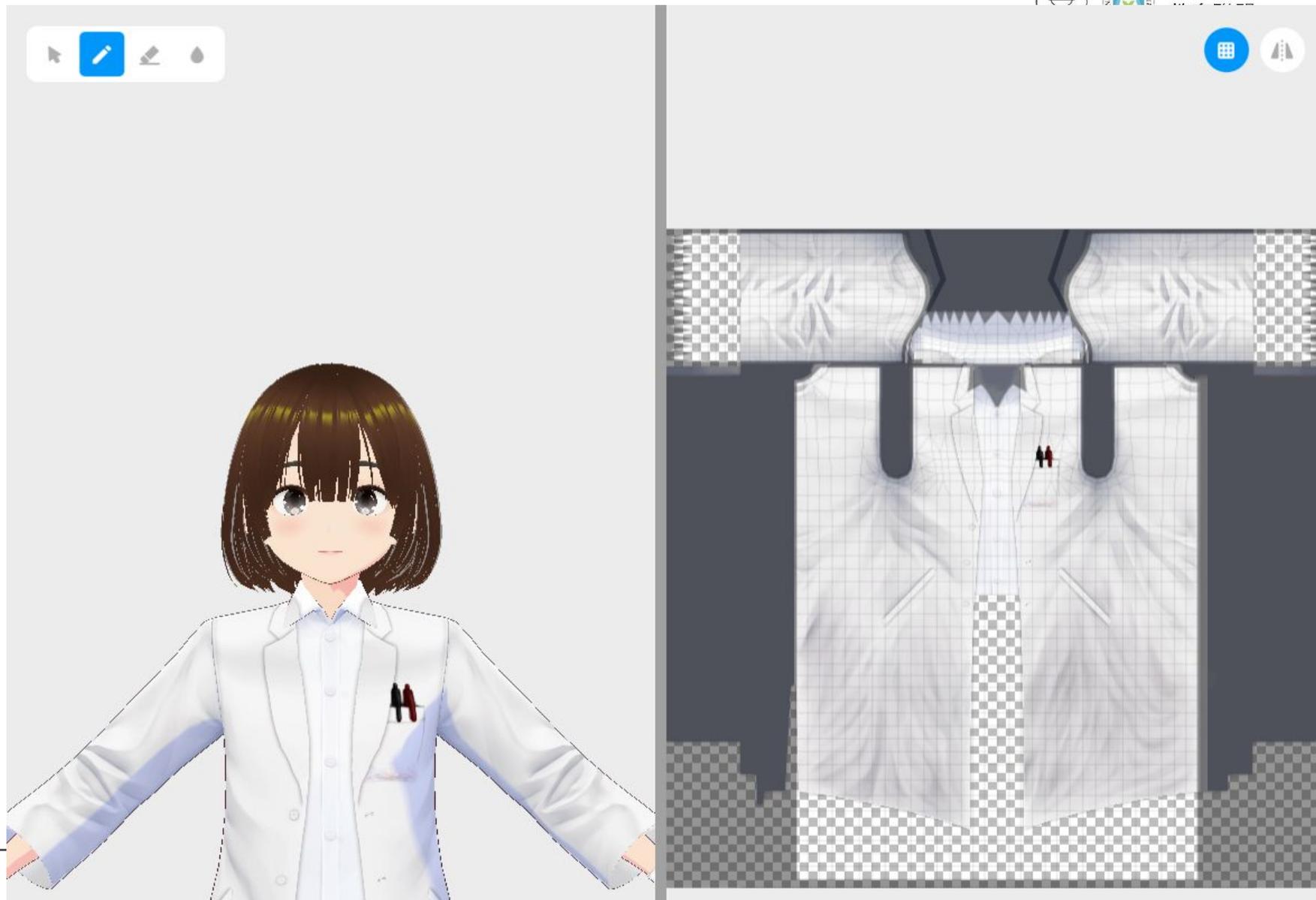


創建角色

❖ 衣服編輯器。

-材質(2)

❖ 成功匯入材質。

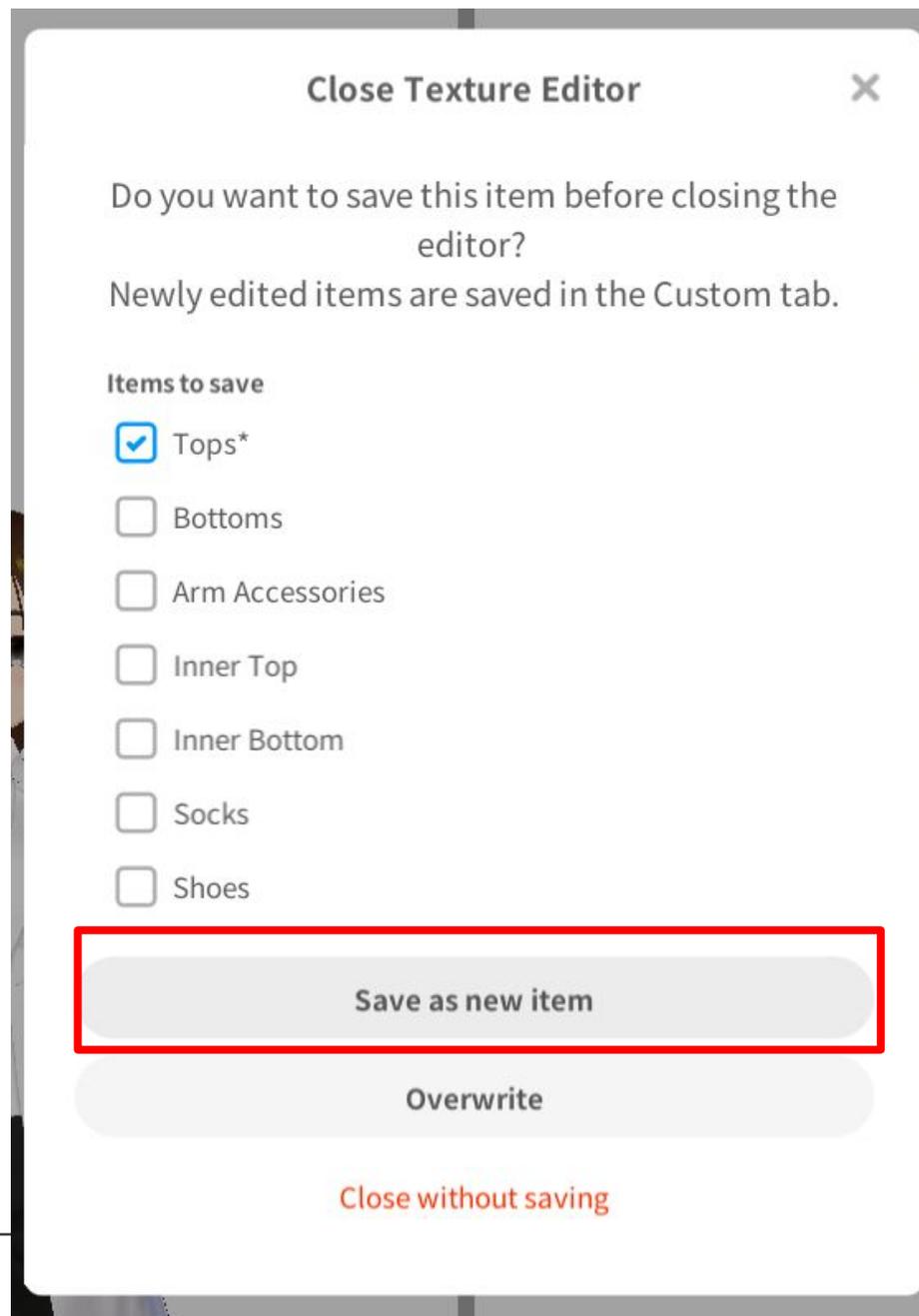


創建角色

❖ 衣服編輯器。

-材質(2)

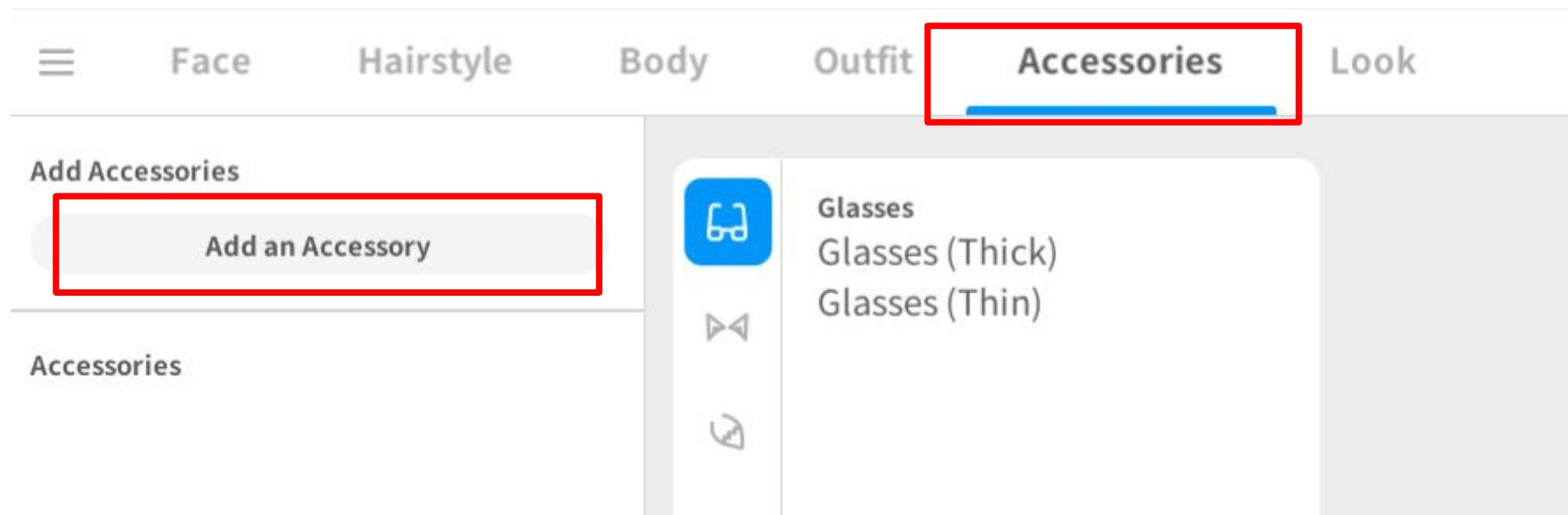
❖ 完成後按左上角叉叉，存成新項目並關閉Editor。





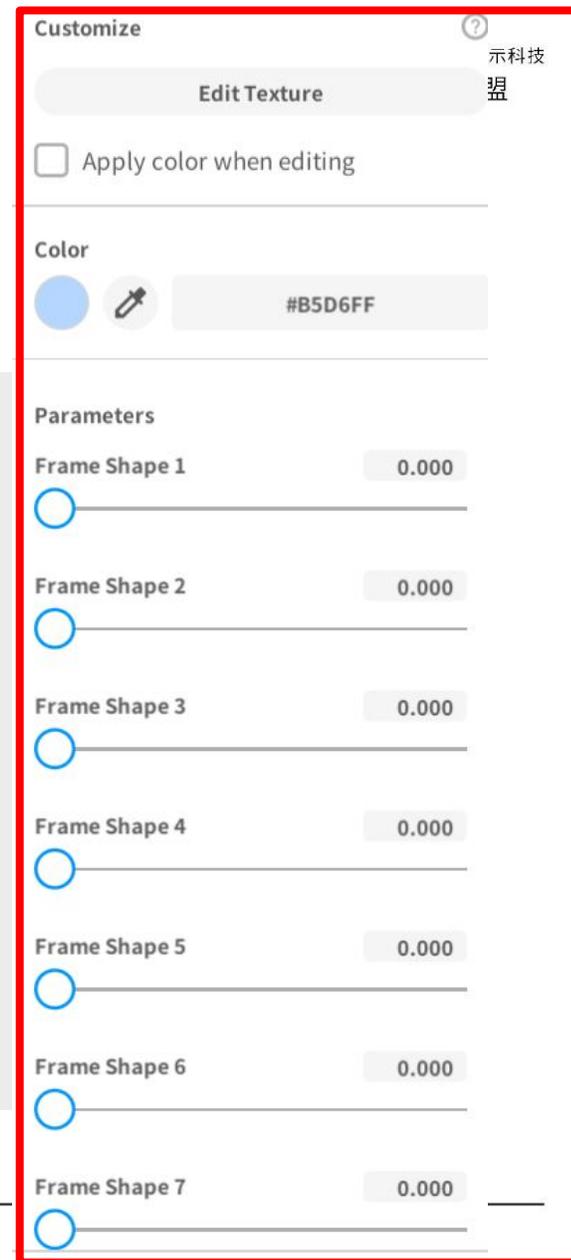
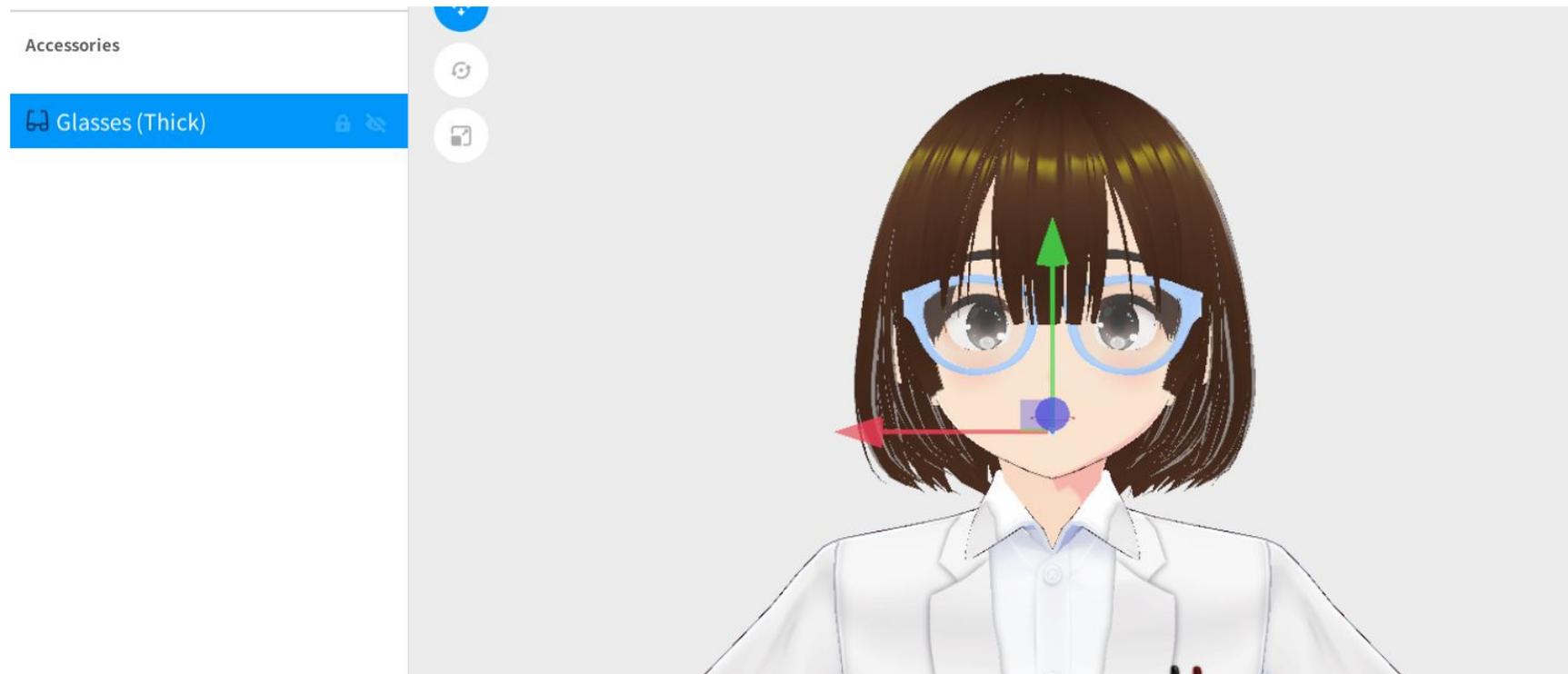
新增配件

- ❖ 點選Accessories, 新增一個配件。



新增配件

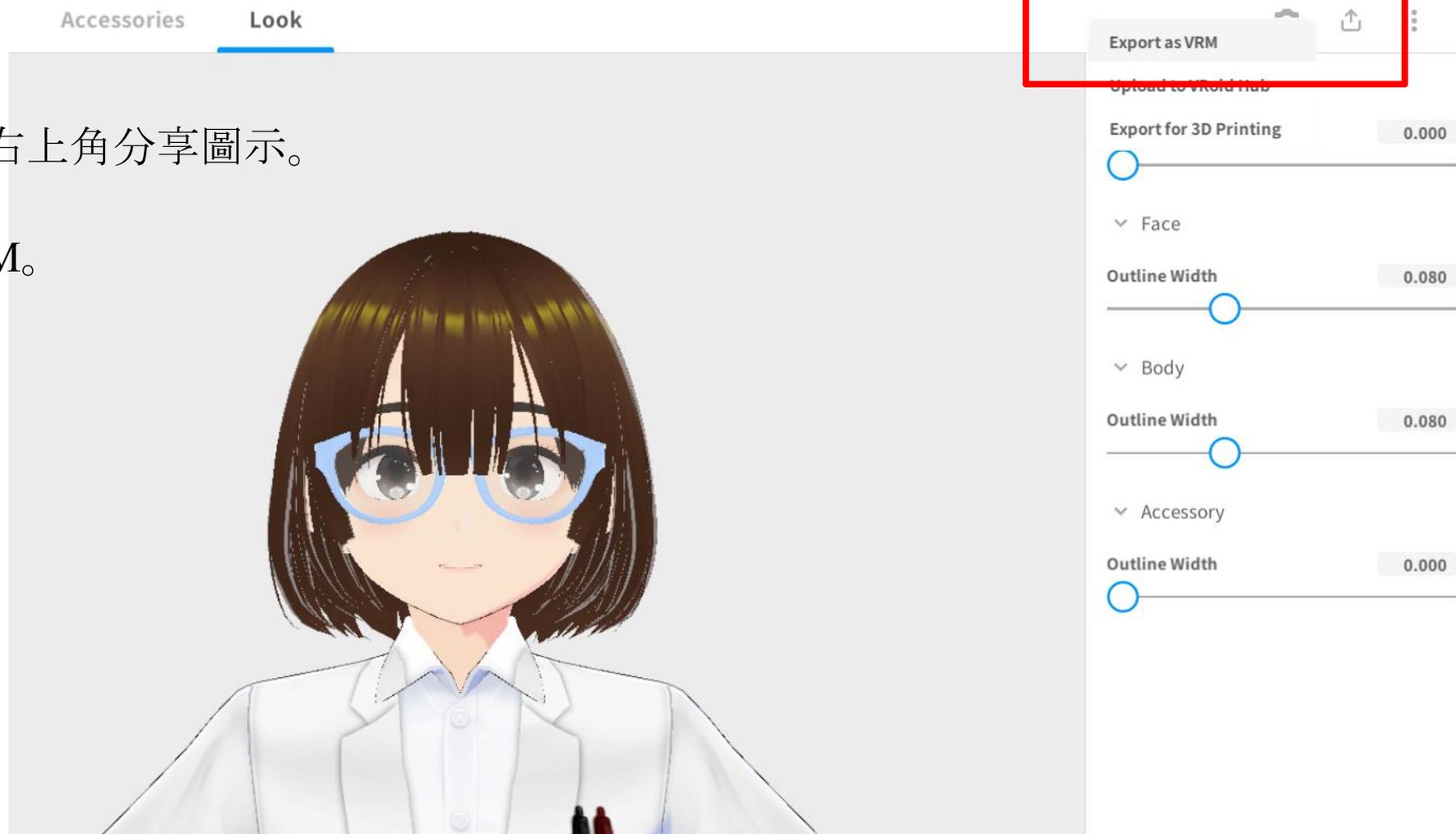
❖ 右邊一列可以調整配件參數。





輸出角色

- ❖ 角色完成後，點選右上角分享圖示。
- ❖ 點選 Export as VRM。



輸出角色

❖ 點選 Export, 輸入角色資訊並存檔。

> Reduce Polygons

> Reduce Materials

> Reduce Bones

Export

VRM Settings

Export Format

VRM0.0 VRM1.0

Avatar Information

Title * Required

yuan1

Creator * Required

yuanpei

Contact Information

Reference

Version

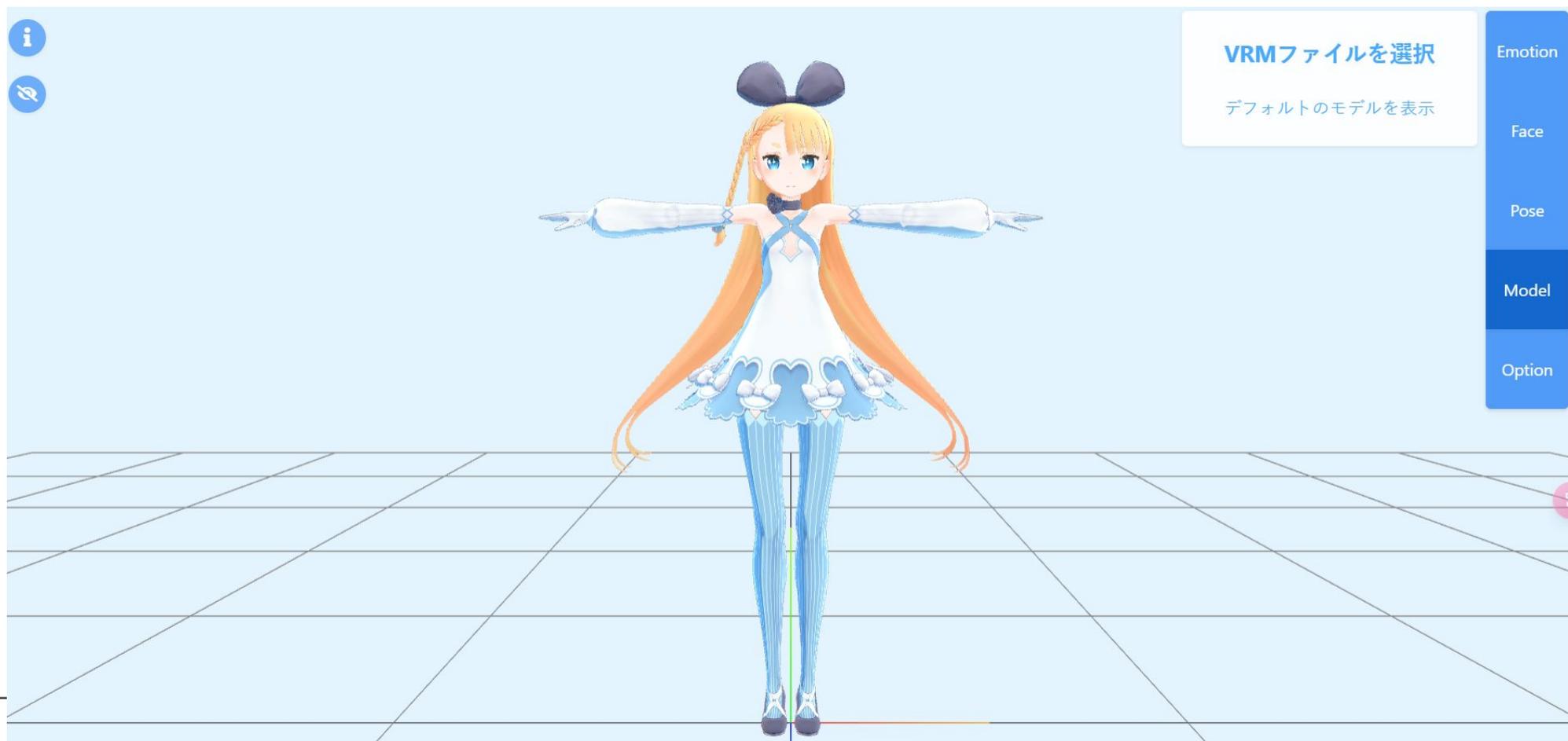
Avatar Personality

Who can assign a personality to the avatar?



輸出角色

- ❖ 輸出完後可以到 vrm-viewer 看看自己做的角色。





輸出角色

- ❖ 選擇要打開的vrm檔。

2 VRMファイルを選択
デフォルトのモデルを表示

1 Model

3

4



輸出角色

❖ 完成。



Emotion

Face

Pose

Model

Option





03

VRoid Hub





VRoid Hub 看看別人的作品

- <https://hub.vroid.com/en/characters/2792872861023597723/models/5013769147837660446>



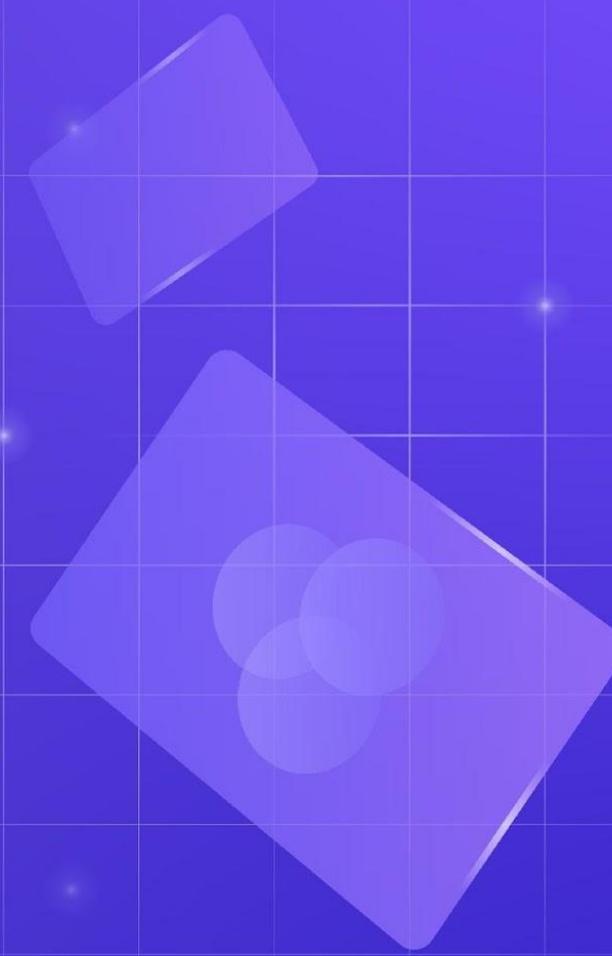
- <https://qiita.com/takencoo/items/b3395d8fb26cf3237f15>





02

VRM 匯入 Unity





UniVRM - GitHub

<https://github.com/vrm-c/UniVRM>

❖ 如果需要將 VRM 格式的檔案匯入 Unity 就需要 下載此Plugin。

點擊 Releases 就能找到輸出完成的壓縮檔。

UniVRM Public

Watch 89 Fork 413 Star 2.5k

master 2 Branches 199 Tags

Go to file Add file Code

oustrue Merge pull request #2336 from oustrue/fix/springbone_ui 36f6eeb · 3 days ago 5,279 Commits

.github	Update label_checker.yml	last week
.vscode	UniVRM-0.122.0	2 months ago
Assets	remove unused	3 days ago
Packages	Merge branch 'master' of https://github.com/vrm-c/UniVRM...	4 months ago
ProjectSettings	remove ENABLE_UNITY_COLLECTIONS_CHECKS symbol.	7 months ago
Tests/Models	fix tests	2 years ago
docs	redirect url	5 months ago
glTF @ 838b607	add glTF & VRM spec schema repository as submodule.	3 years ago
vrmspecification @ 7f5252a	pull vrmspecification	last month
.gitattributes	lfs untrack binary files	2 years ago
.gitignore	Add UserSettings directory to gitignore	2 years ago
.gitmodules	Add MToon submodule in new directory.	3 years ago
LICENSE.txt	License To VRM Consortium	4 years ago

About

UniVRM is a gltf-based VRM format implementation for Unity. English is here <https://vrm.dev/en/>. 日本語はこちら <https://vrm.dev/>

vrm.dev/en

unity3d gltf

Readme MIT license Activity Custom properties 2.5k stars 89 watching 413 forks Report repository

Releases 119

v0.124.1 Latest last week

+ 118 releases



UniVRM - GitHub

- ❖ 這裡有他們的 document
- last week
oustrtrue
v0.124.1
Compare
- 及 unitypackages (unity的專案包)

建議的 Unity 版本：
這邊為 2021.3 LTS



v0.124.1 Latest

Release Notes

- [日本語](#)
- [English](#)

Installation

The UniVRM supports Unity 2021.3 LTS or later.

You can install UniVRM using the UnityPackage or the UPM Package.

VRM 1.0 Import/Export

- via UnityPackage
 - Download [VRM-0.124.1_e606.unitypackage](#)
- via UPM Package
 - com.vrmc.vrmshaders
 - com.vrmc.gltf
 - com.vrmc.vrm

VRM 0.x Import/Export

- via UnityPackage
 - Download [UniVRM-0.124.1_e606.unitypackage](#)
- via UPM Package

往下滑會看到 Assets

UniVRM - GitHub

❖ Releases.Assets。



UniVRM-0.124.1_e606.unitypackage

Documentation

- [日本語](#)
- [English](#)

▼ Assets 6

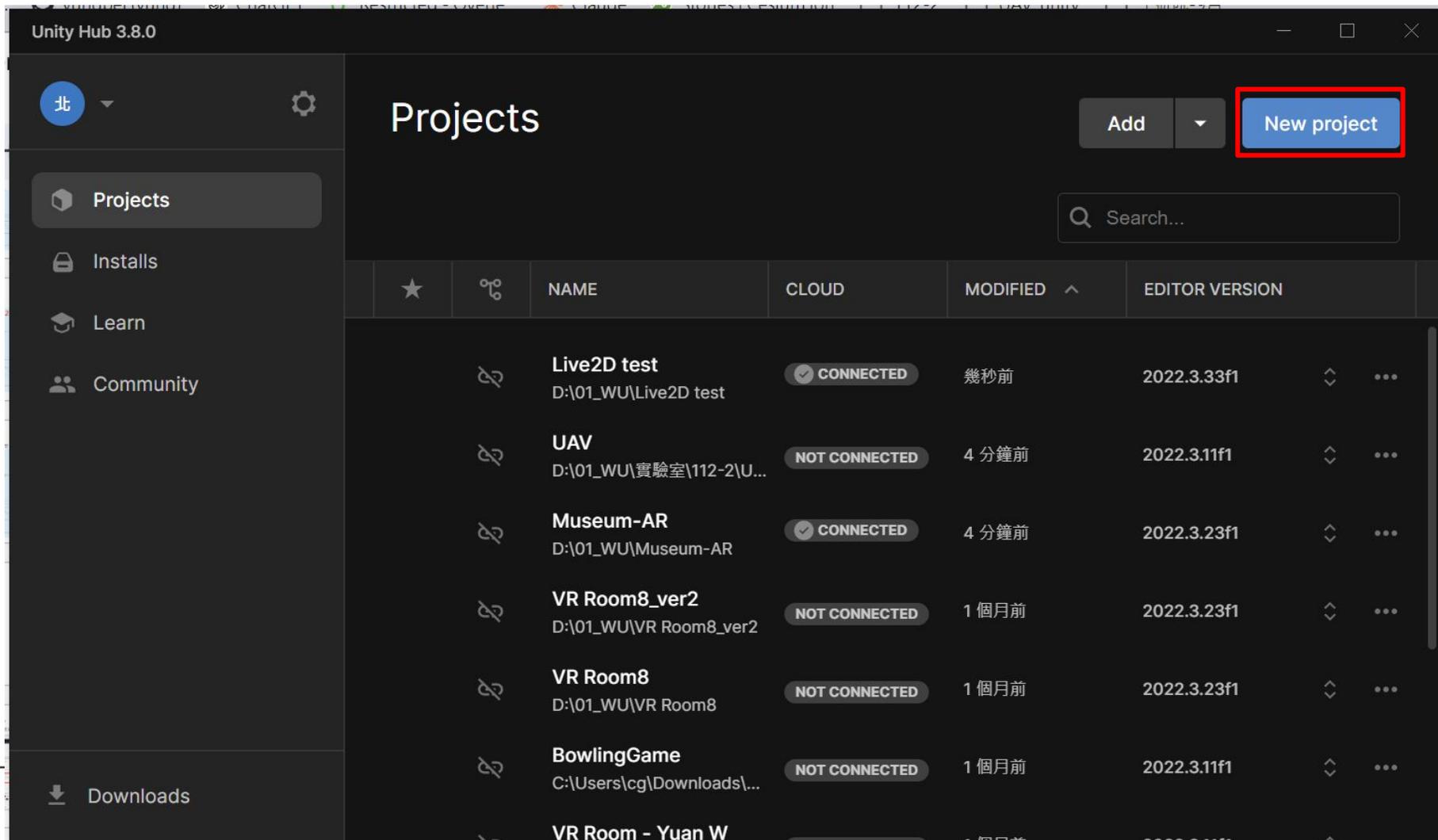
UniVRM-0.124.1_e606.unitypackage	6.38 MB	last week
UniVRM_Samples-0.124.1_e606.unitypackage	1.04 MB	last week
VRM-0.124.1_e606.unitypackage	6.5 MB	last week
VRM_Samples-0.124.1_e606.unitypackage	22.9 MB	last week
Source code (zip)		last week
Source code (tar.gz)		last week

UniVRM: 主要的功能都包在這個package裡
(這是我們要載的)

UniVRM-sample: 官方提供簡單的實作範例
(可以回去自己試試看)

UnityHub

❖ 新增專案。





Create Project

❖ 選擇 3D Templates。

Editor Version: 2022.3.33f1 LTS

All templates

- Core
- Sample
- Learning

Search all templates

- 2D (Built-In Render Pipeline) Core
- 3D (Built-In Render Pipeline) Core**
- SRP Universal 2D Core
- SRP Universal 3D Core
- SRP High Definition 3D Core
- Universal 3D sample

3D (Built-In Render Pipeline)
This is an empty 3D project that uses Unity's built-in renderer.
[Read more](#)

PROJECT SETTINGS

Project name
ComputerAnimation

Location
D:\01_WU

Cancel Create project

1. 選擇這個

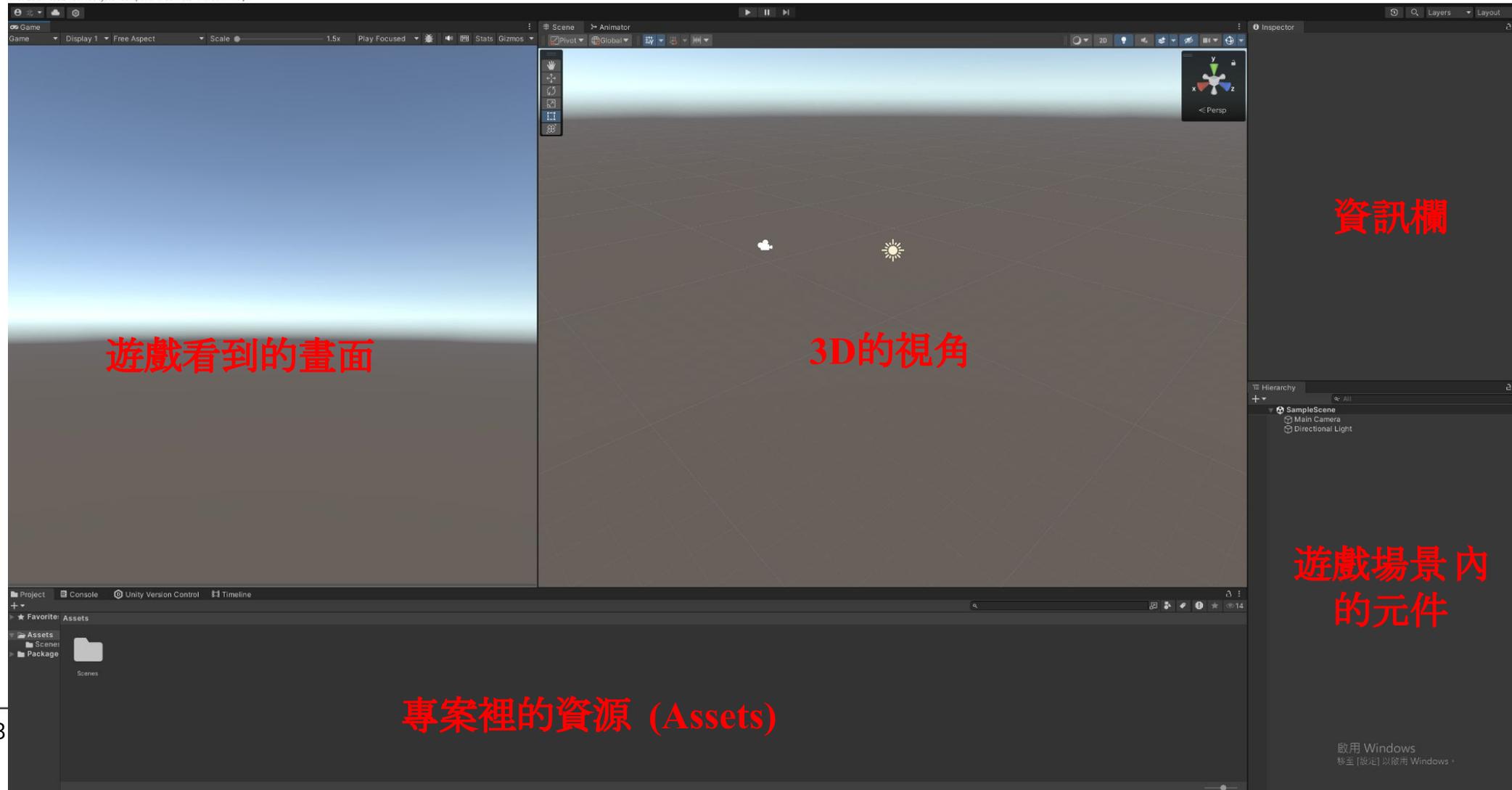
2. 新增



Unity

ComputerAnimation - SampleScene - Windows, Mac, Linux - Unity 2022.3.31f1 (DX11)

File Edit Assets GameObject Component Services Window Help



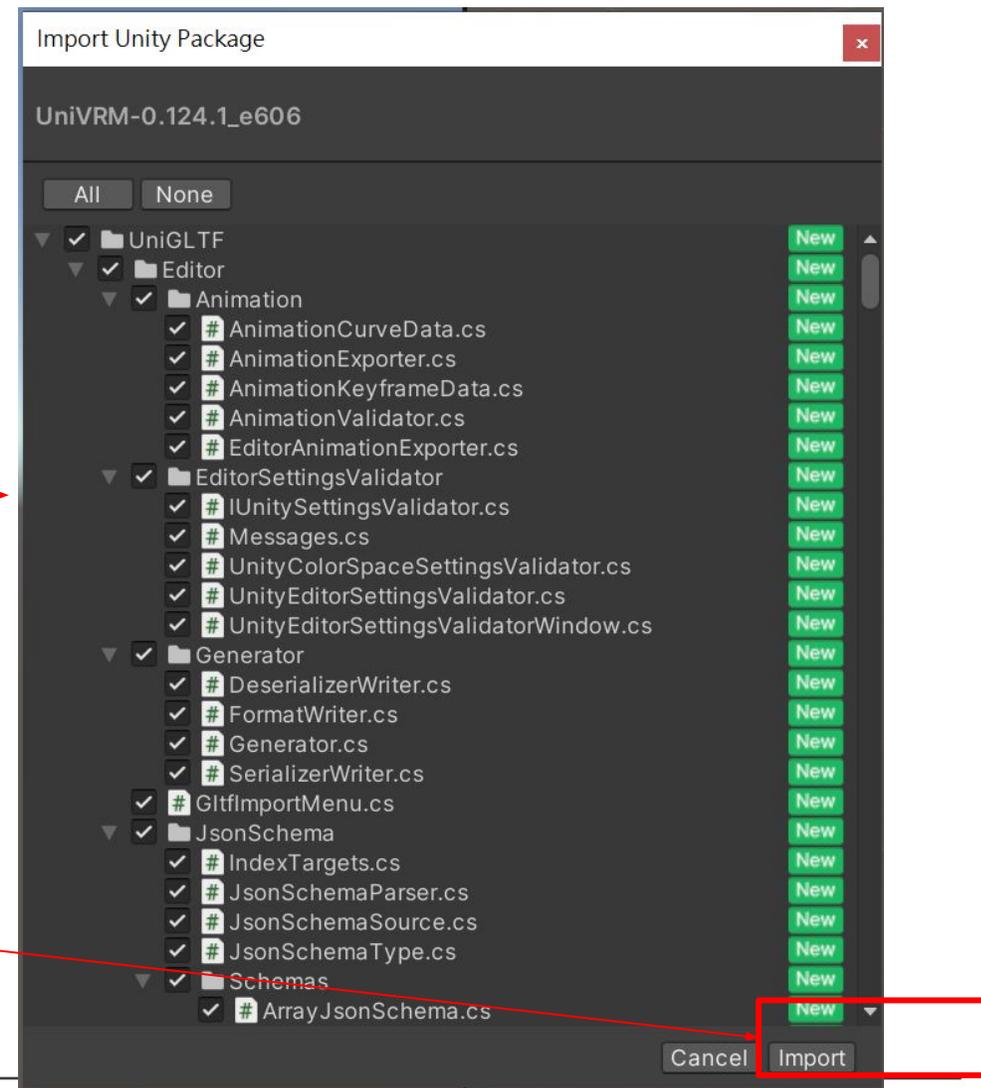


import package

- ❖ 將下載的 UniVRM package,
- ❖ import 匯入到 unity 中
(直接拖曳到Assets)。



按我

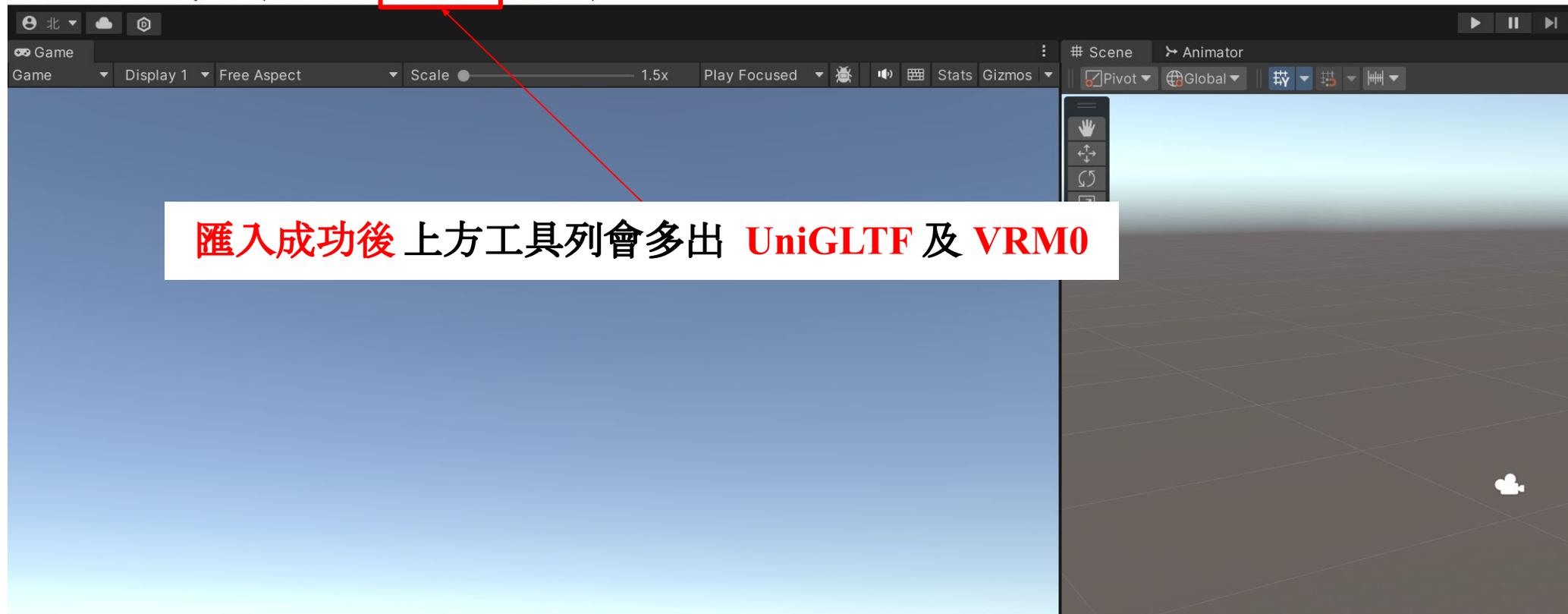




import package

ComputerAnimation - SampleScene - Windows, Mac, Linux - Unity 2022.3.33f1 <DX11>

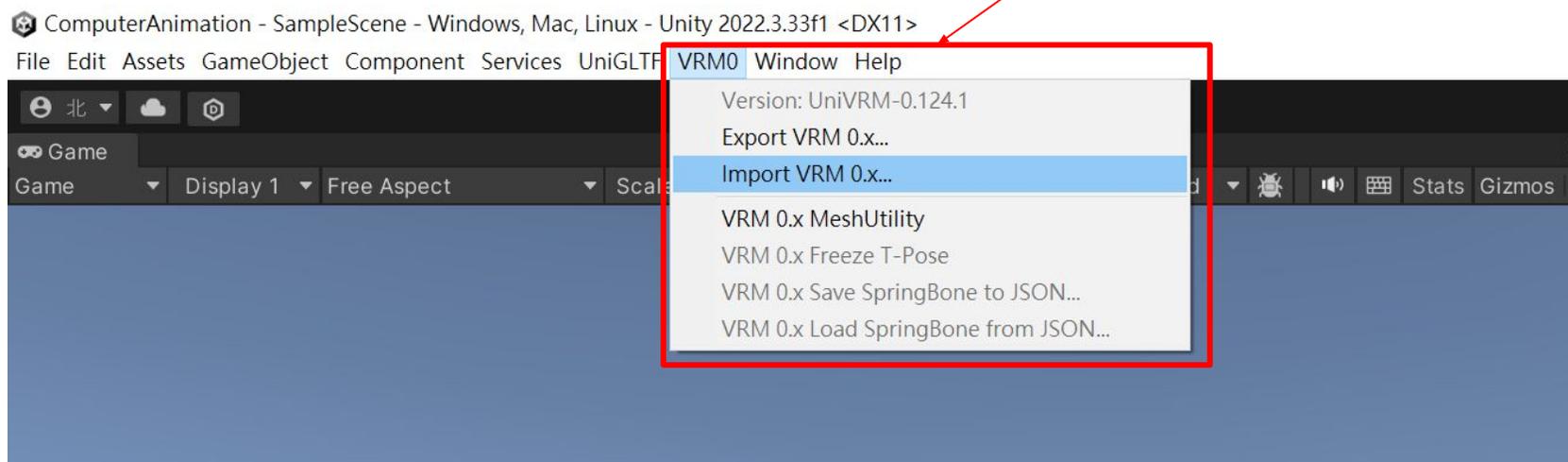
File Edit Assets GameObject Component Services **UniGLTF VRM0** Window Help





import VRM

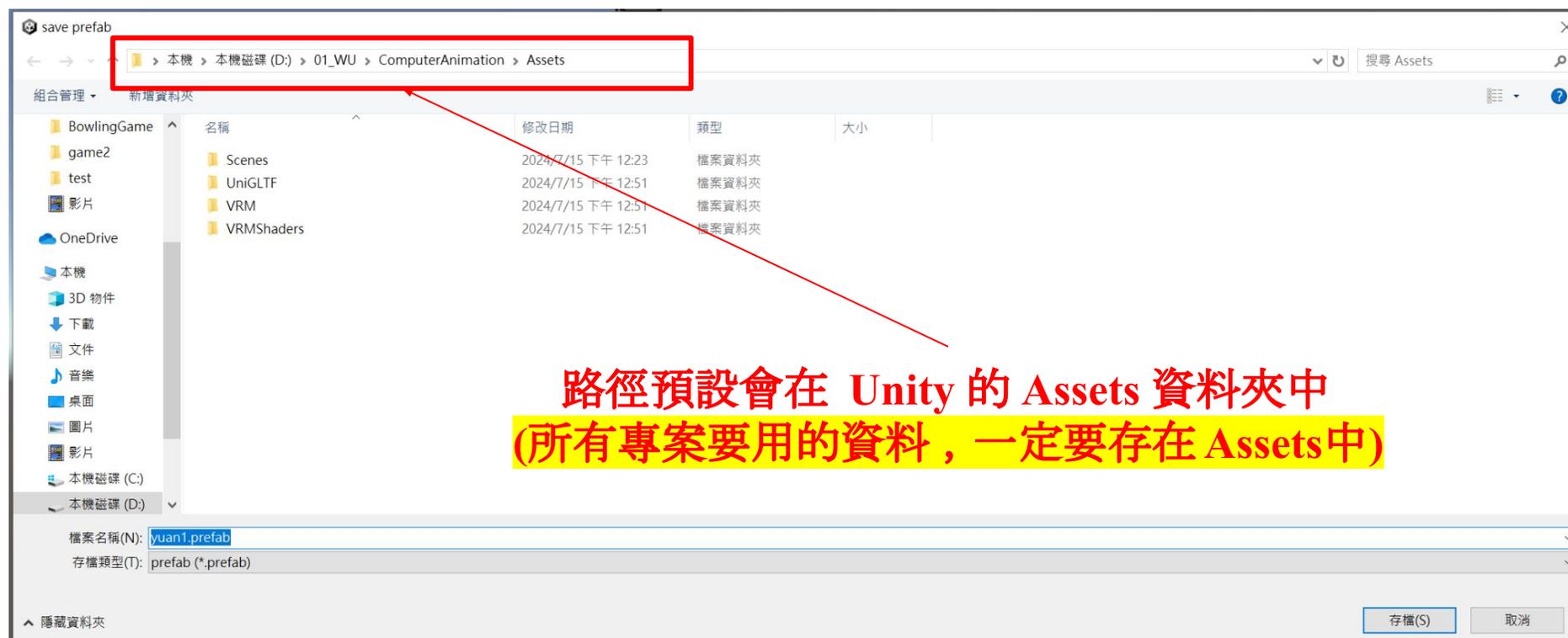
選擇 VRM0工具 後, 再點選 **import**





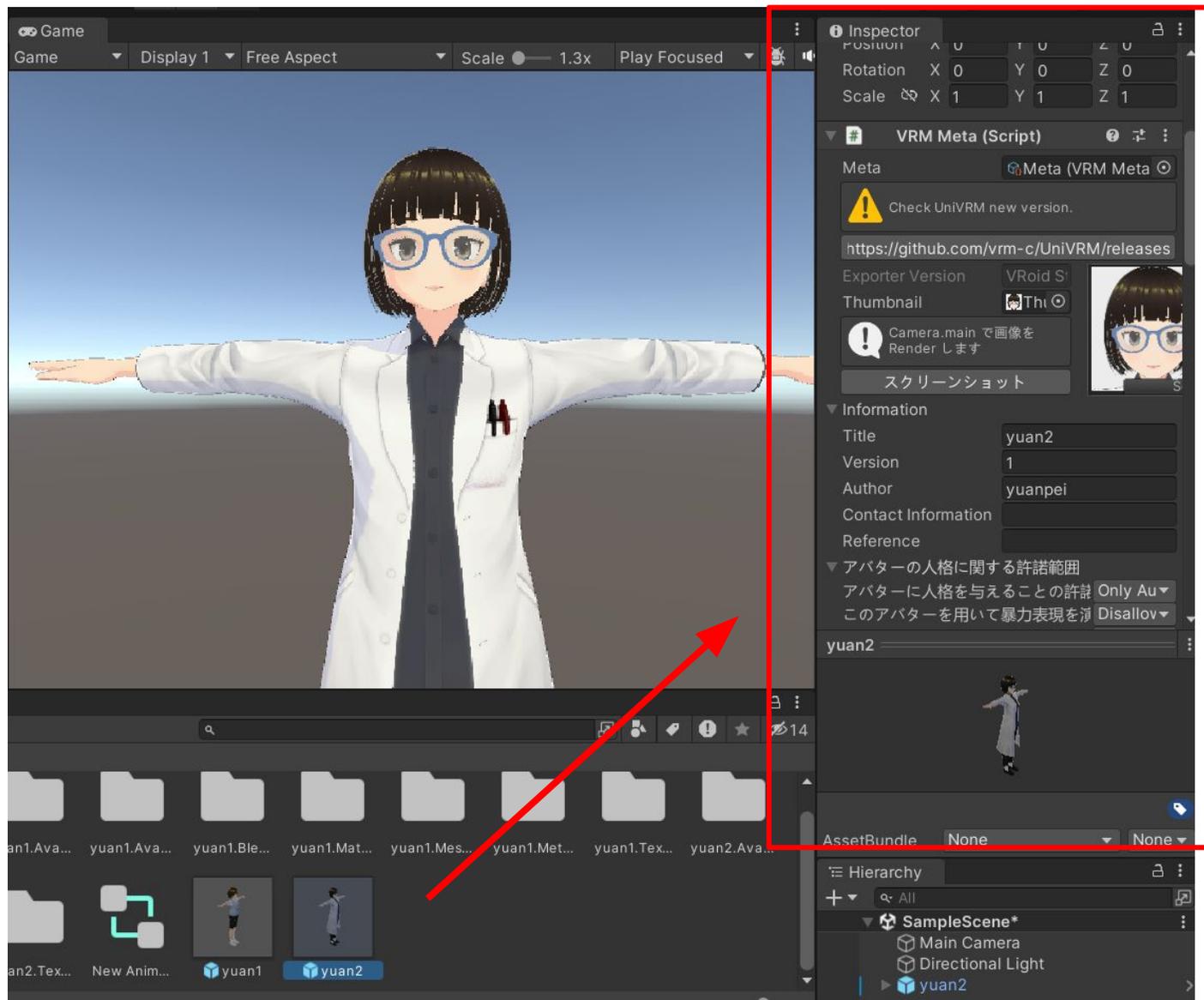
Save prefab

- ❖ Unity 會將 VRM 轉成 Prefab (unity內建的一種檔案)。



prefab

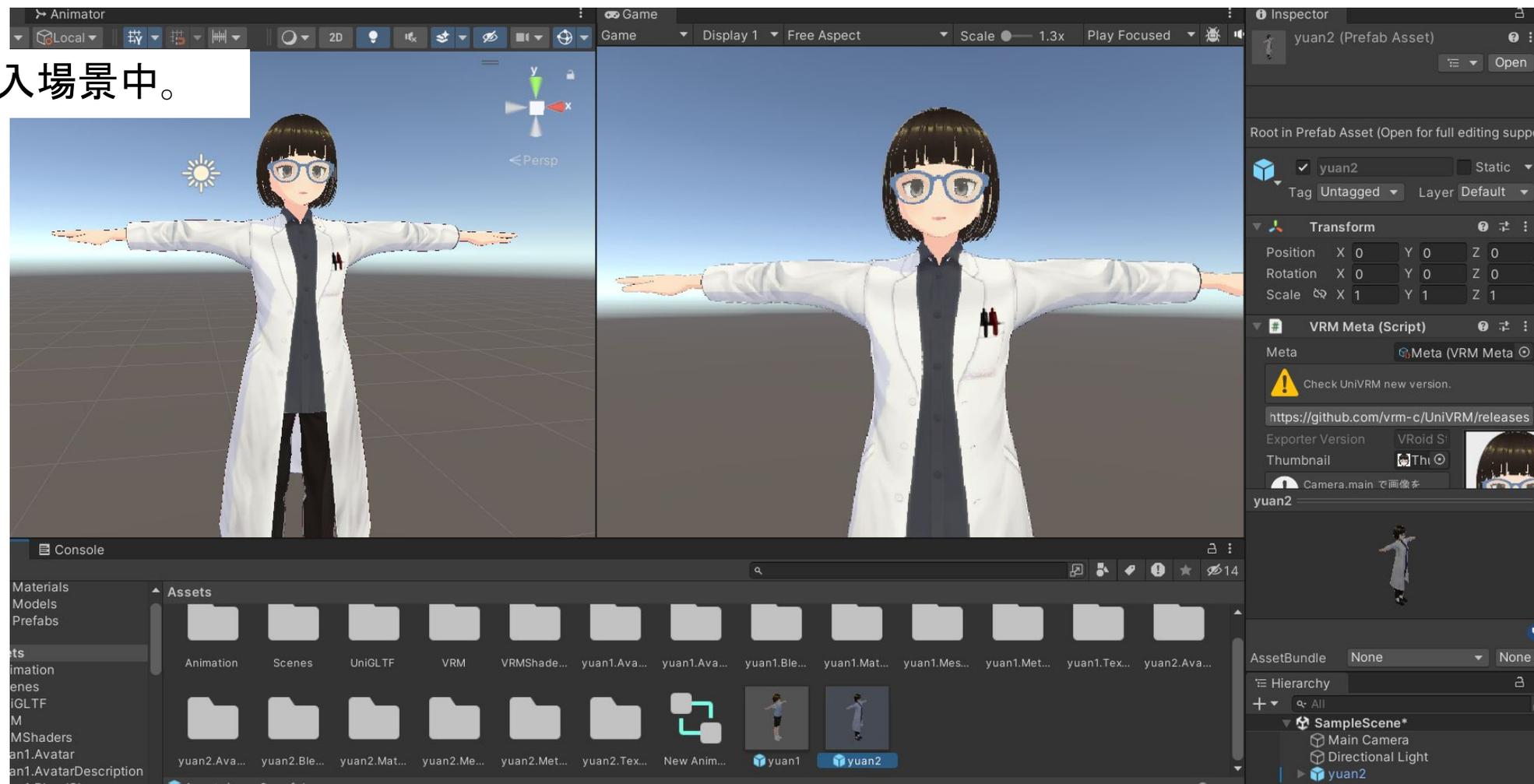
vrml人物, 成功匯入





Unity

❖ 將vrm放入場景中。





04

Blender 建模



Blender

Blender 建模 (莊子逸提供)

https://www.youtube.com/watch?v=SA_wqmZoNps

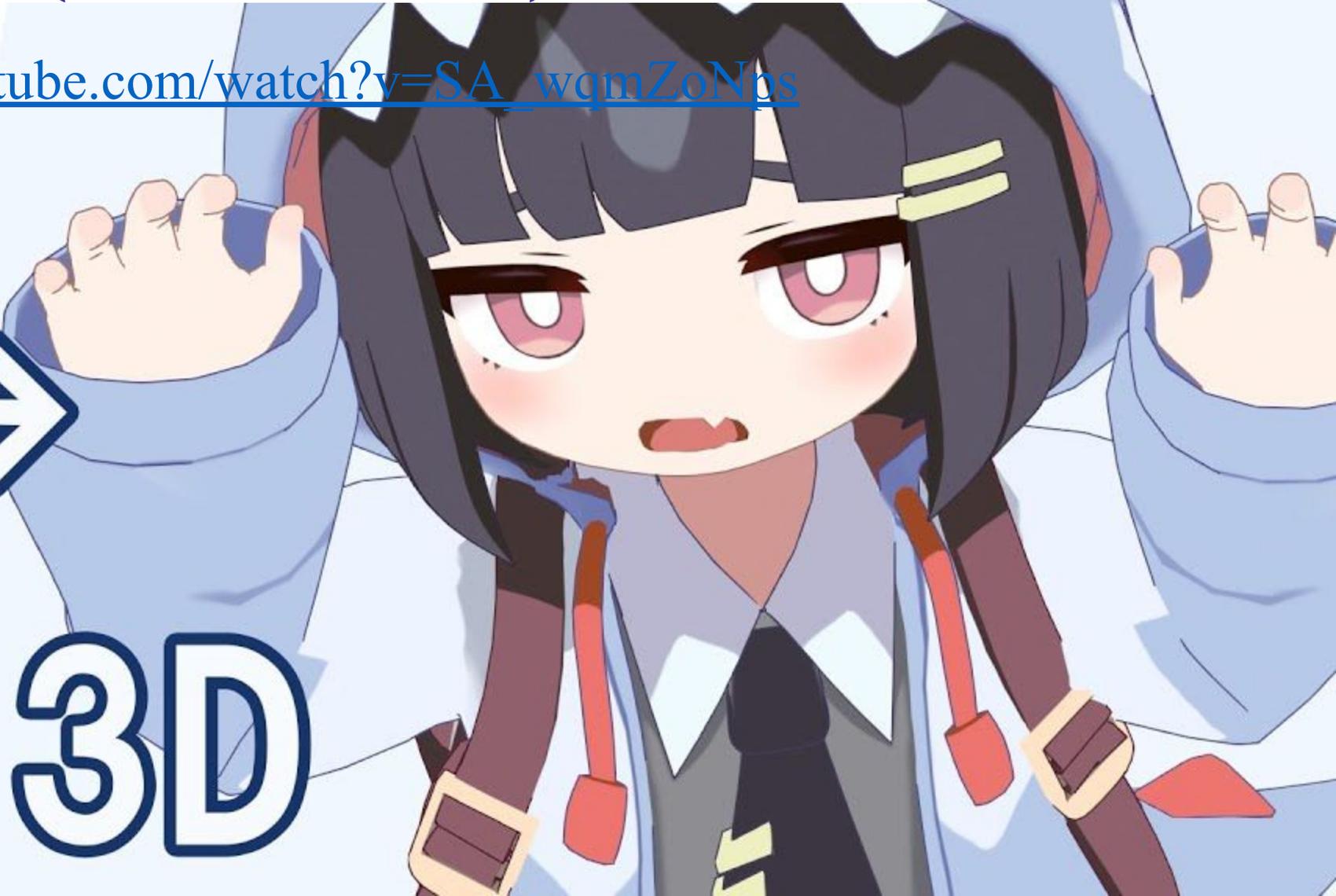


2D

P.46



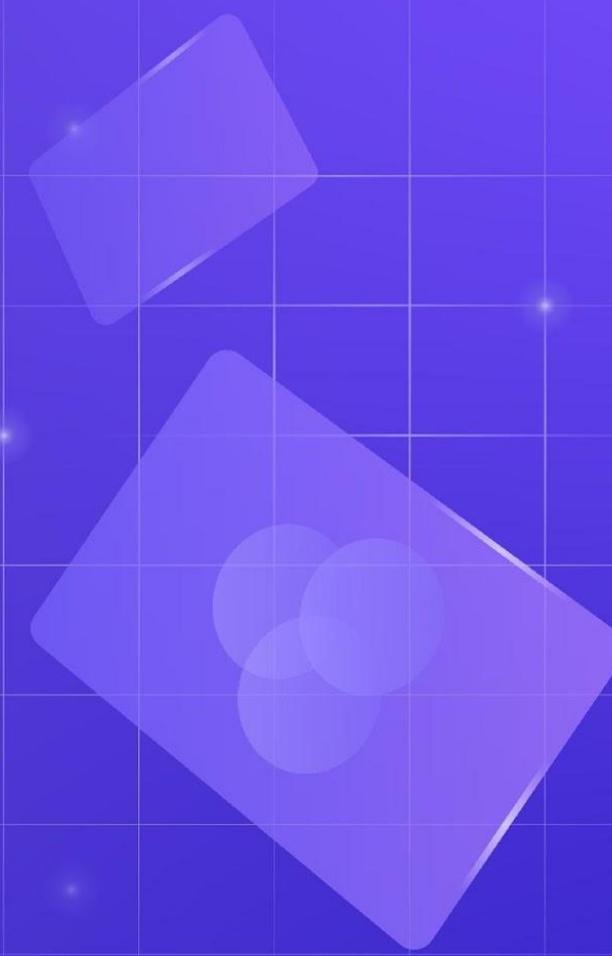
3D





04

助教聯絡資訊





助教聯絡資訊

- TA Email
 - 吳泳霈 t112598033@ntut.org.tw
 - Email 標題請按照此格式(X為作業編號) : [-hw01-學號]

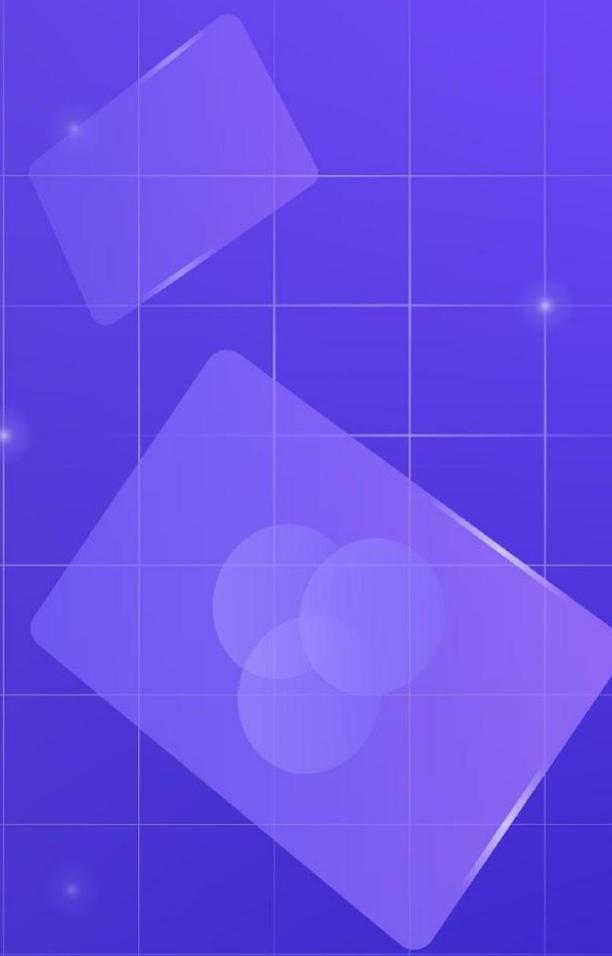


Thank you



03

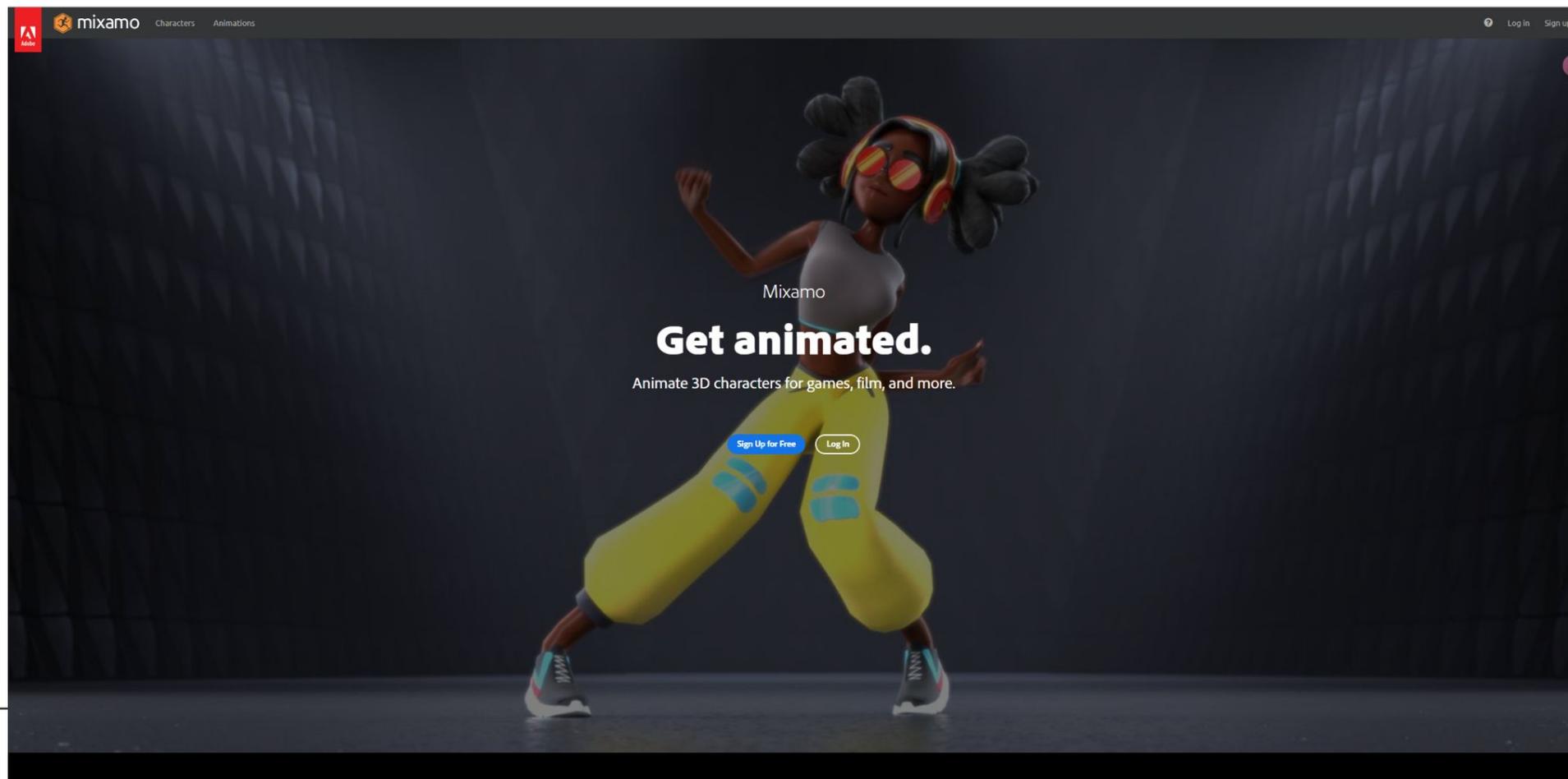
Mixamo載動作檔





Mixamo

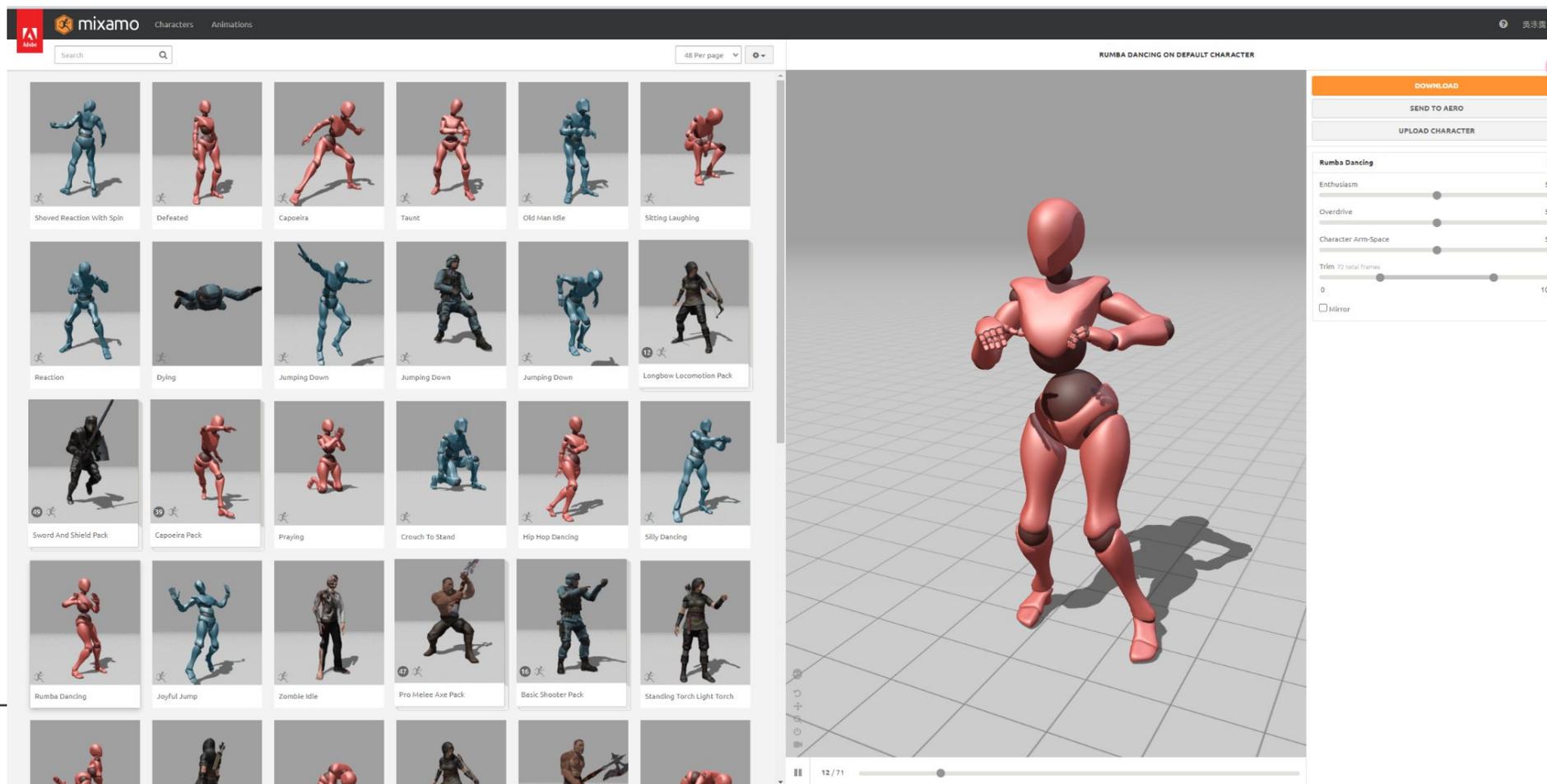
- ❖ 到 [mixamo](https://www.mixamo.com) 可以載動作檔





Apply animation

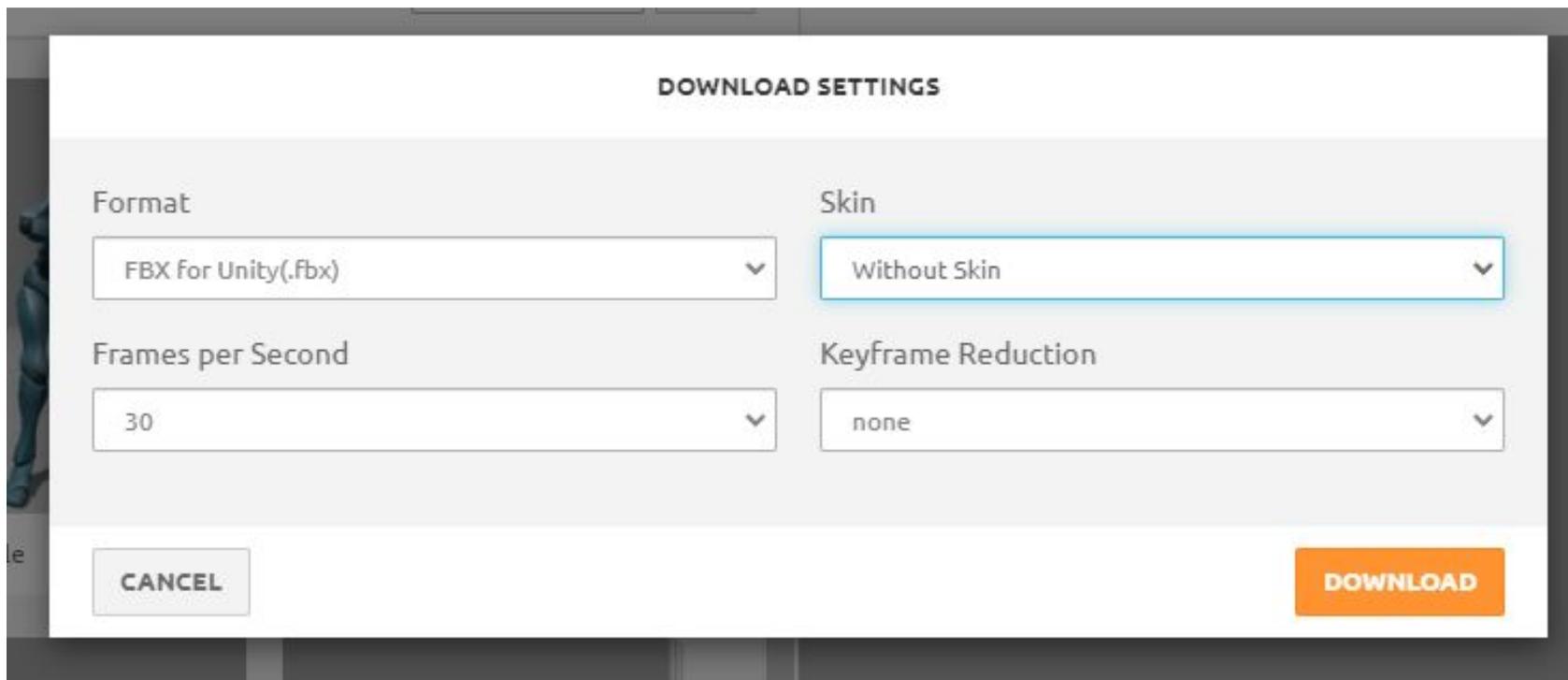
- ❖ 登入後選擇 Animation 選擇你要的動作後按 Download





Apply animation

- ❖ 選擇 For Unity 及 without skin (只下載動作檔) 然後下載





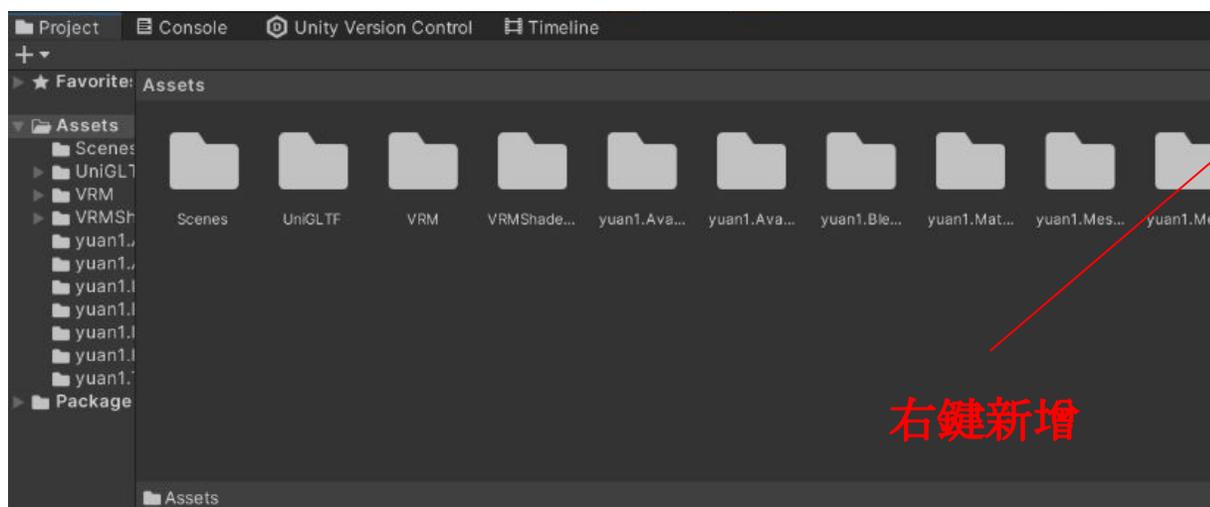
Mixamo Download

❖ [下載連結](#)

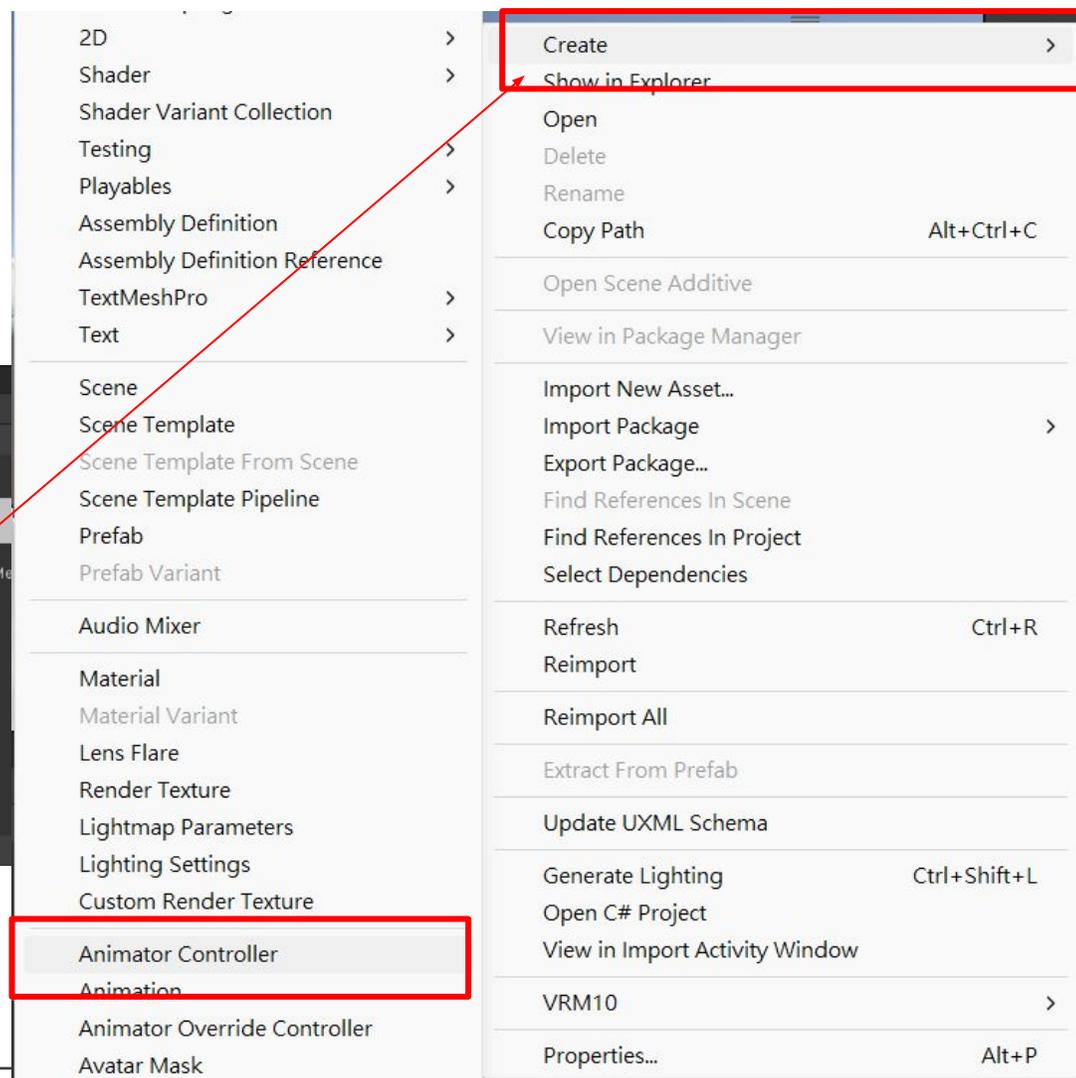


Unity

❖ 新增 Animator Controller (在assets裡按右鍵)。



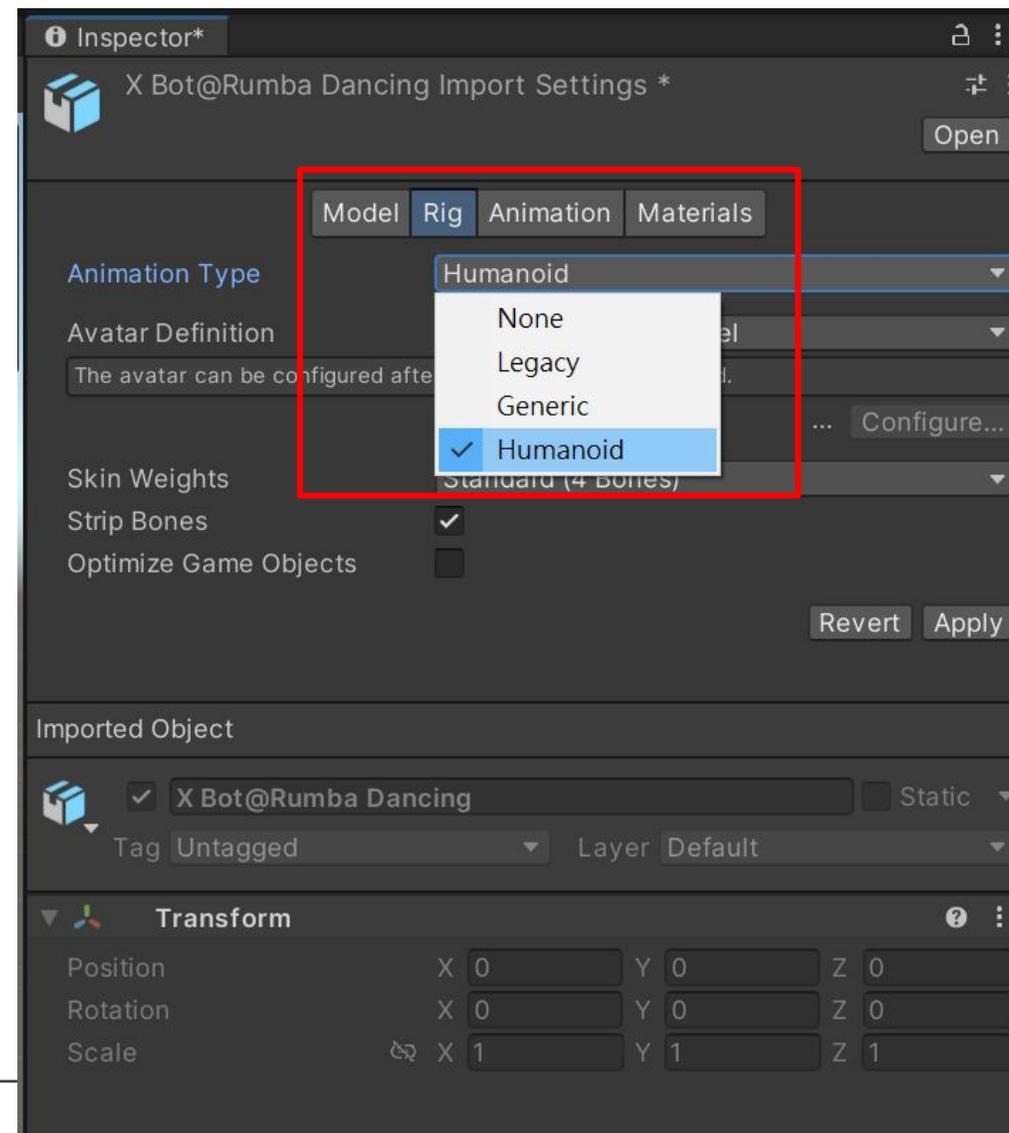
右鍵新增





Setting

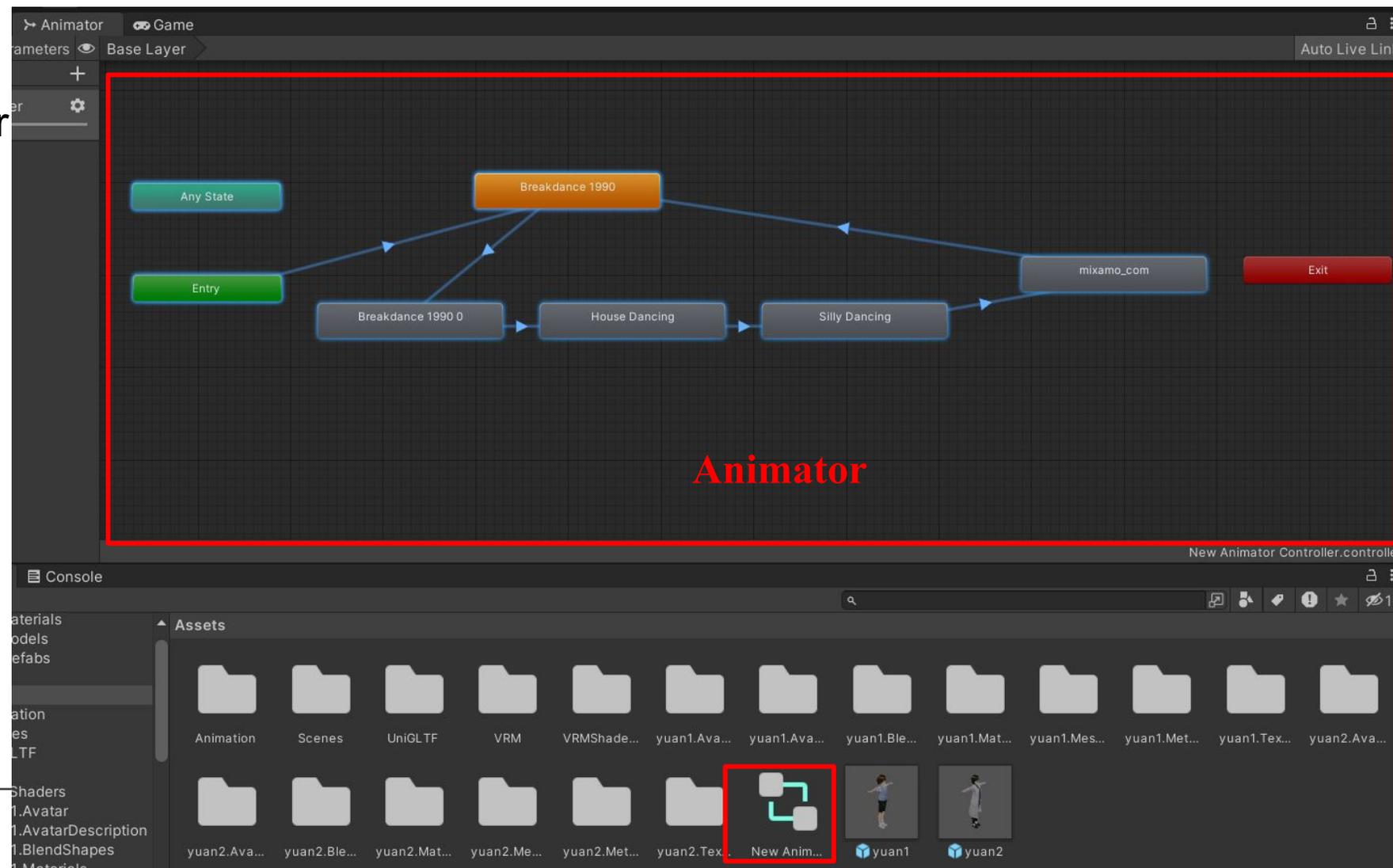
- ❖ 將下載好的動作拖曳至Assets中，並點選將Animation Type 選至Humanoid (人形)。





Animation Controller

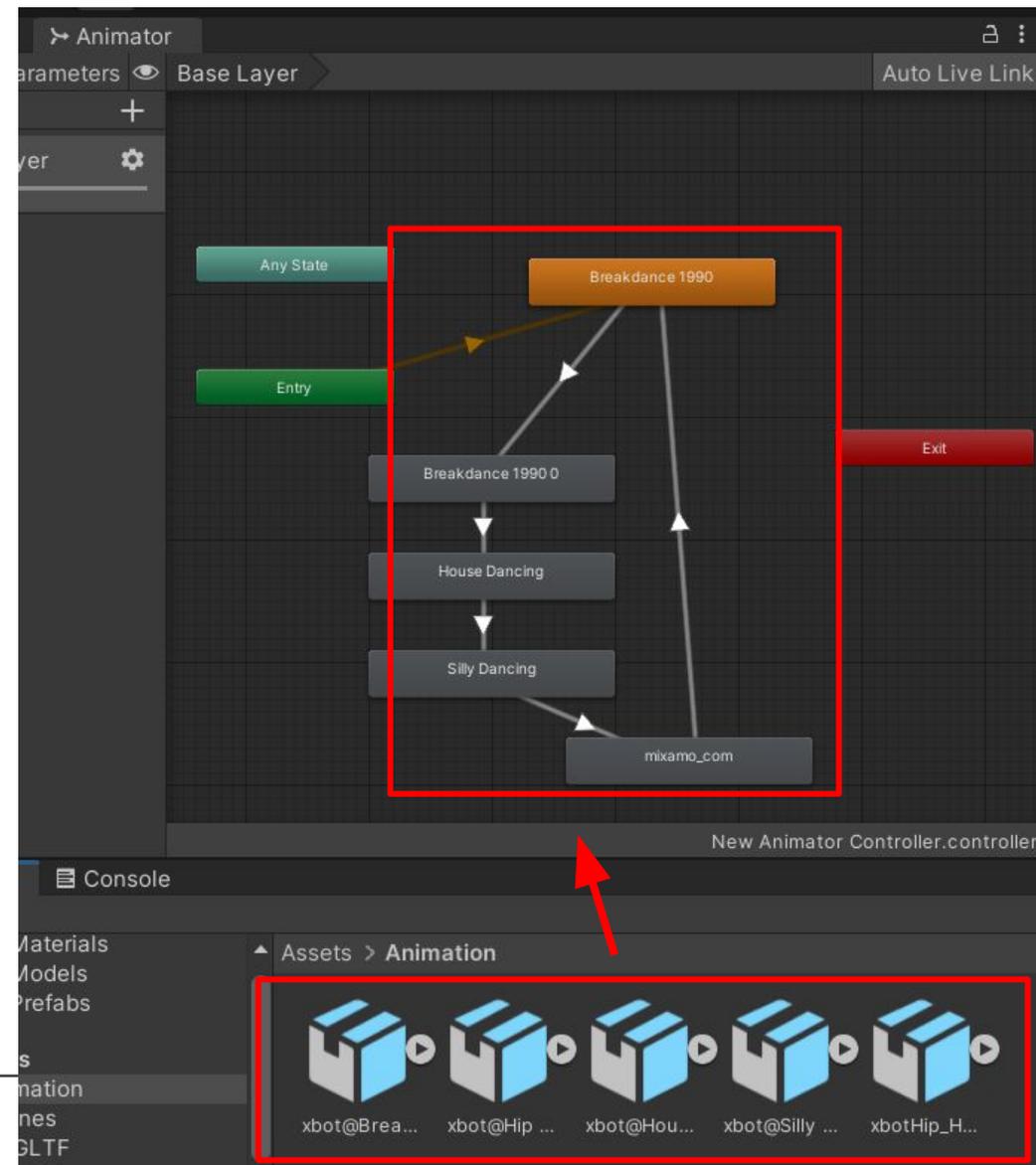
❖ 點選剛剛新增的
Animation Controller
會出現Animator





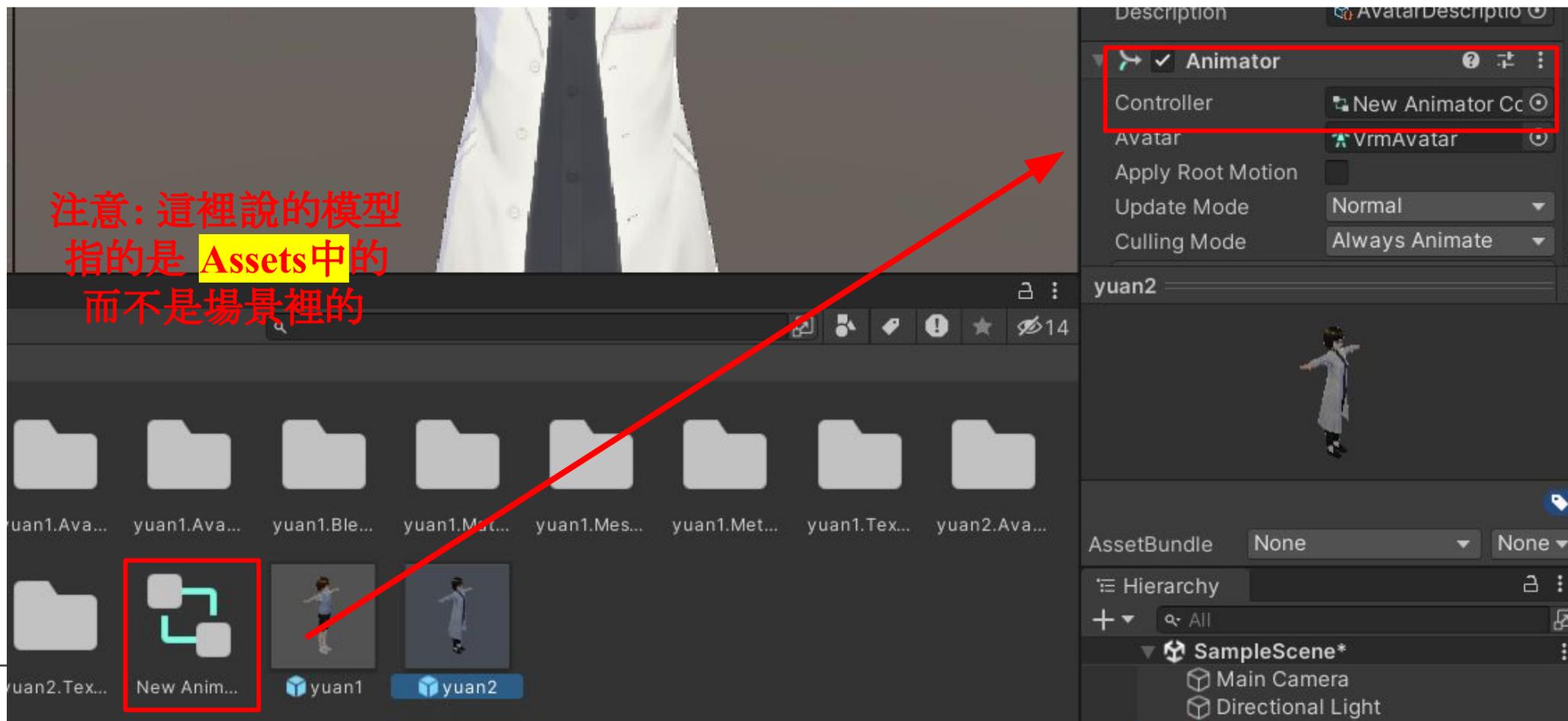
Animation Controller

- ❖ 將剛剛的動作拖曳至 Animator



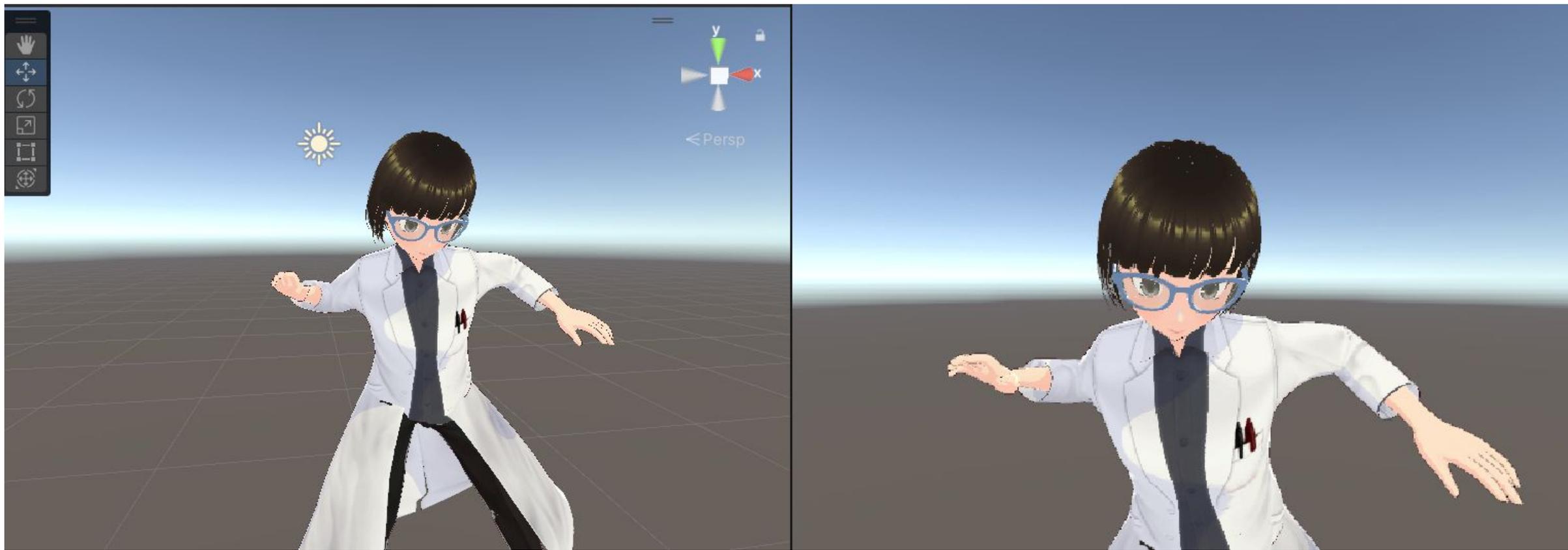
Model Add Controller

- ❖ 點選剛剛的Vrm模型後，將Animation Controller 拖曳至 Animator 中的Controller



Play

❖ 就可以看到人物做動作了!





04

評分標準



評分標準

- **Simple baseline (4pt)**
 - 創建一個 Vroid 角色 (2pt)
 - 套上醫學袍 (2pt)
- **Medium baseline (4pt)**
 - 角色匯入 Unity (2pt)
 - 套入動作檔 (2pt)
- **Strong baseline (2pt)**
 -